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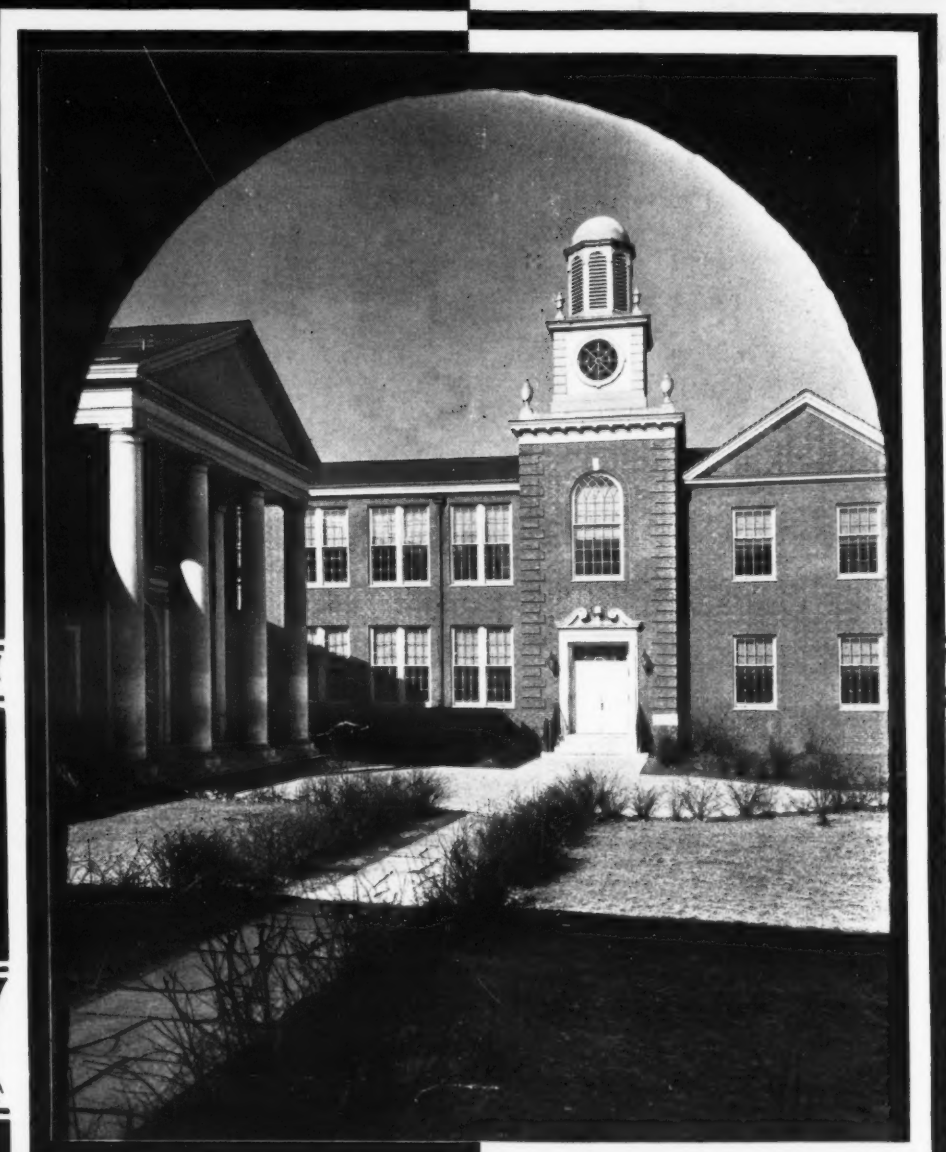
THE AMERICAN School Board Journal

A Periodical of School Administration



JULY 1932

THE BRUCE PUBLISHING COMPANY
MILWAUKEE
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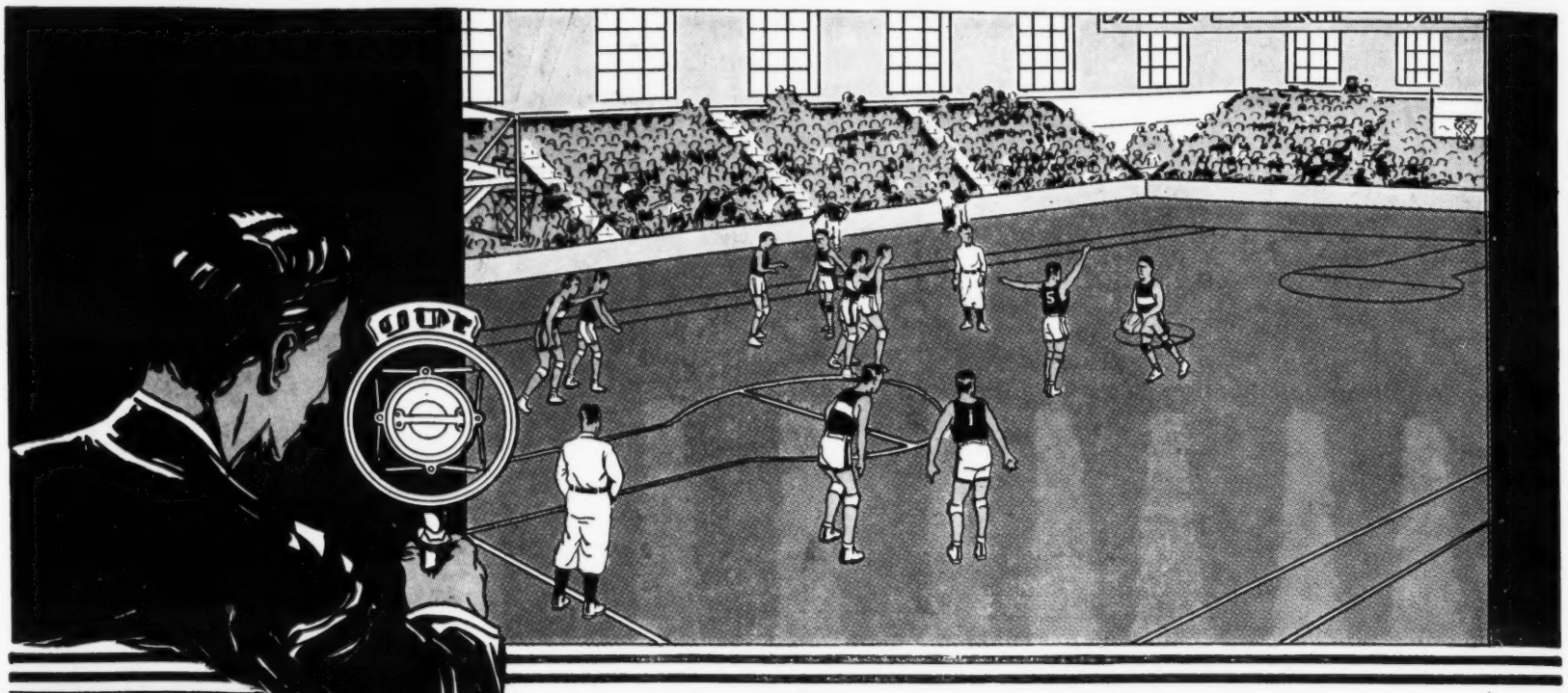
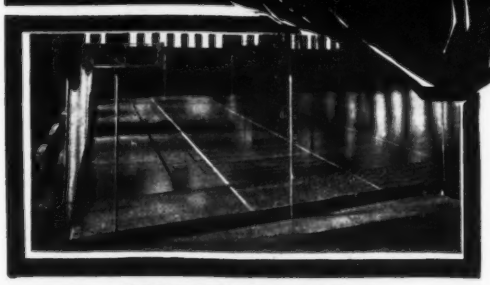
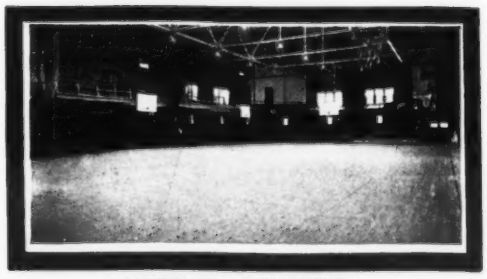




CHICAGO UNIVERSITY



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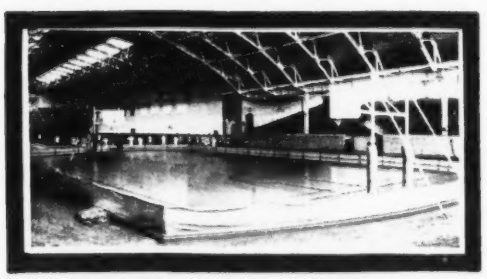

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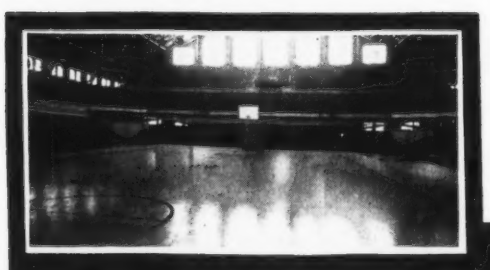

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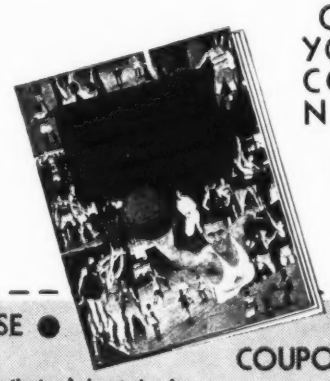
SLIPS, skids, and fluke plays don't happen on a Seal-O-San'd floor. Seal-O-San is the perfect gymnasium floor treatment which produces a handsome, perfectly sealed floor with a surface that is absolutely 100% non-slippery. It makes possible more accurate basket shooting, clever dribbling and better floor work. Notre Dame, Indiana University, Purdue, Michigan, Butler, Iowa and more than two thousand other colleges, high schools, Y. M. C. A.'s, etc. are already using Seal-O-San on their gymnasium floors with genuine satisfaction.

Seal-O-San is very economical to apply and saves more than its cost in lowered up-keep. It is the ideal treatment for all wood floors in your entire school building. Use the coupon on the right --- let us quote you on the cost of treating your floors with Seal-O-San.



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We might consider treating our gymnasium floor with SEAL-O-SAN soon. Rush information immediately.

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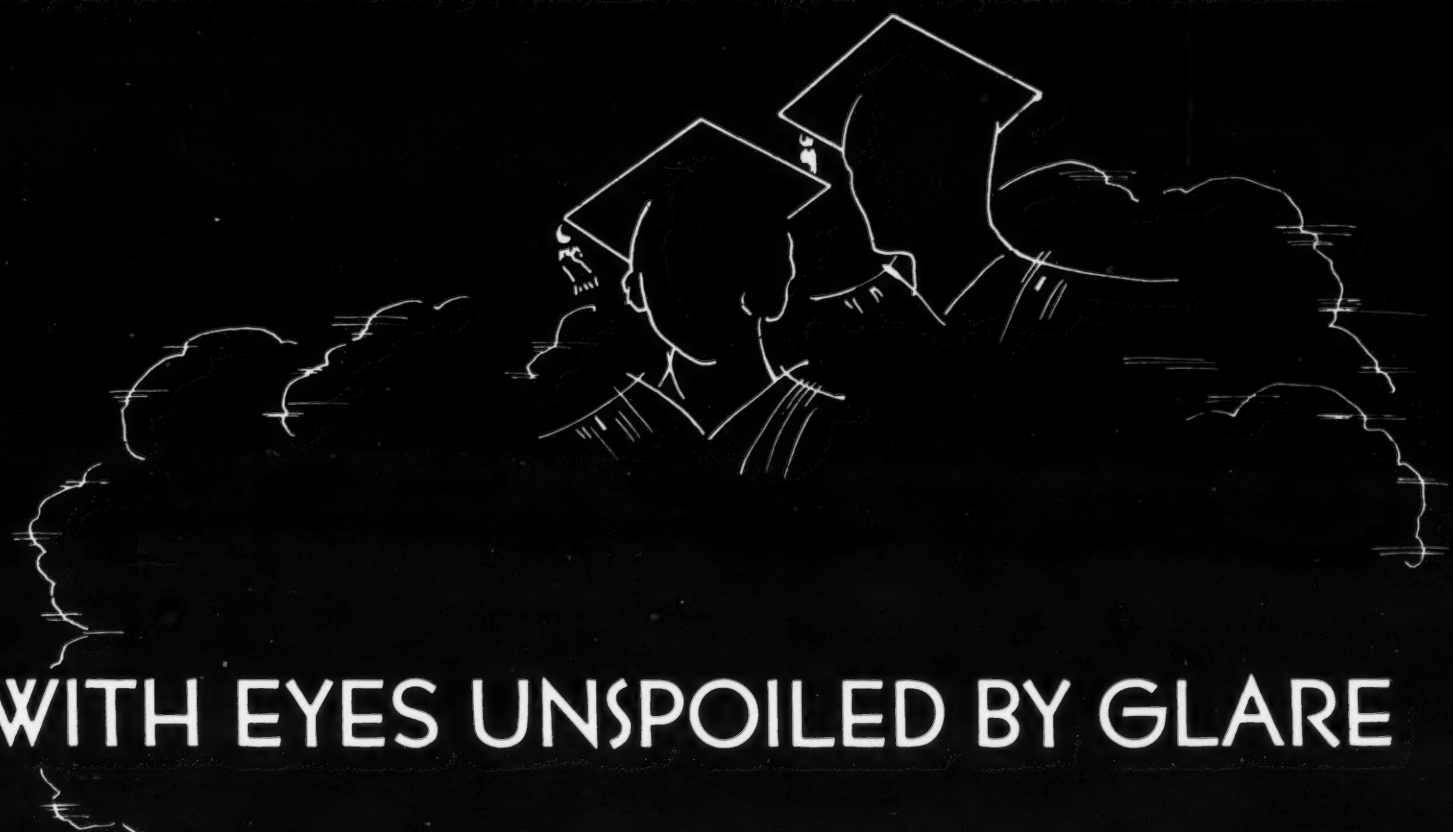


WITH EYES UNSPOILED BY GLARE

In childhood they come to you and through the years under your guidance and supervision they prepare themselves to go out into the world mentally equipped to cope with life's problems.

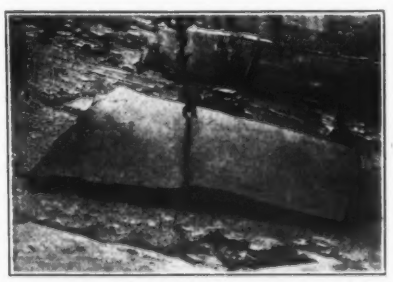
When they reach the climax of their school life they face a new future full of youthful enthusiasm and confidence. Send them out into the world with eyes unspoiled by glare.

Give them blackboards of natural slate whose soft black velvet-like surface absorbs strong lights and makes reading from any position in the room a pleasure. The ideal surface of genuine "Pyramid" natural slate blackboards brings out every chalk mark, white and strong, yet each clear mark is as easily erased as it is written, and only a dry blackboard eraser is required.

Because slate will not reflect annoying lights, because it will not warp and bulge or crack and because the writing surface is the same all the way through, school officials and architects have used this natural product for years. With a time proven record it is not necessary to experiment.

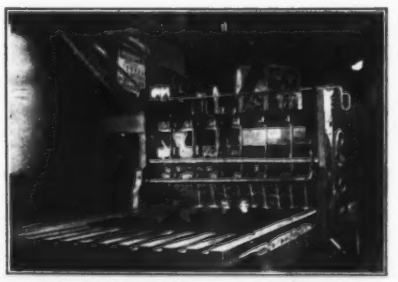
A "Pyramid" natural slate blackboard paperweight will be sent upon request.

From hundreds of feet below the earth deep bed slate, solid and finely grained is quarried.



A solid block weighing eight ton ready for its upward journey from the quarry floor.

Sand-rubbed on fast revolving steel tables to insure uniformity of thickness.



Honed to a velvet finish, the ideal writing surface.

NATURAL SLATE BLACKBOARD COMPANY

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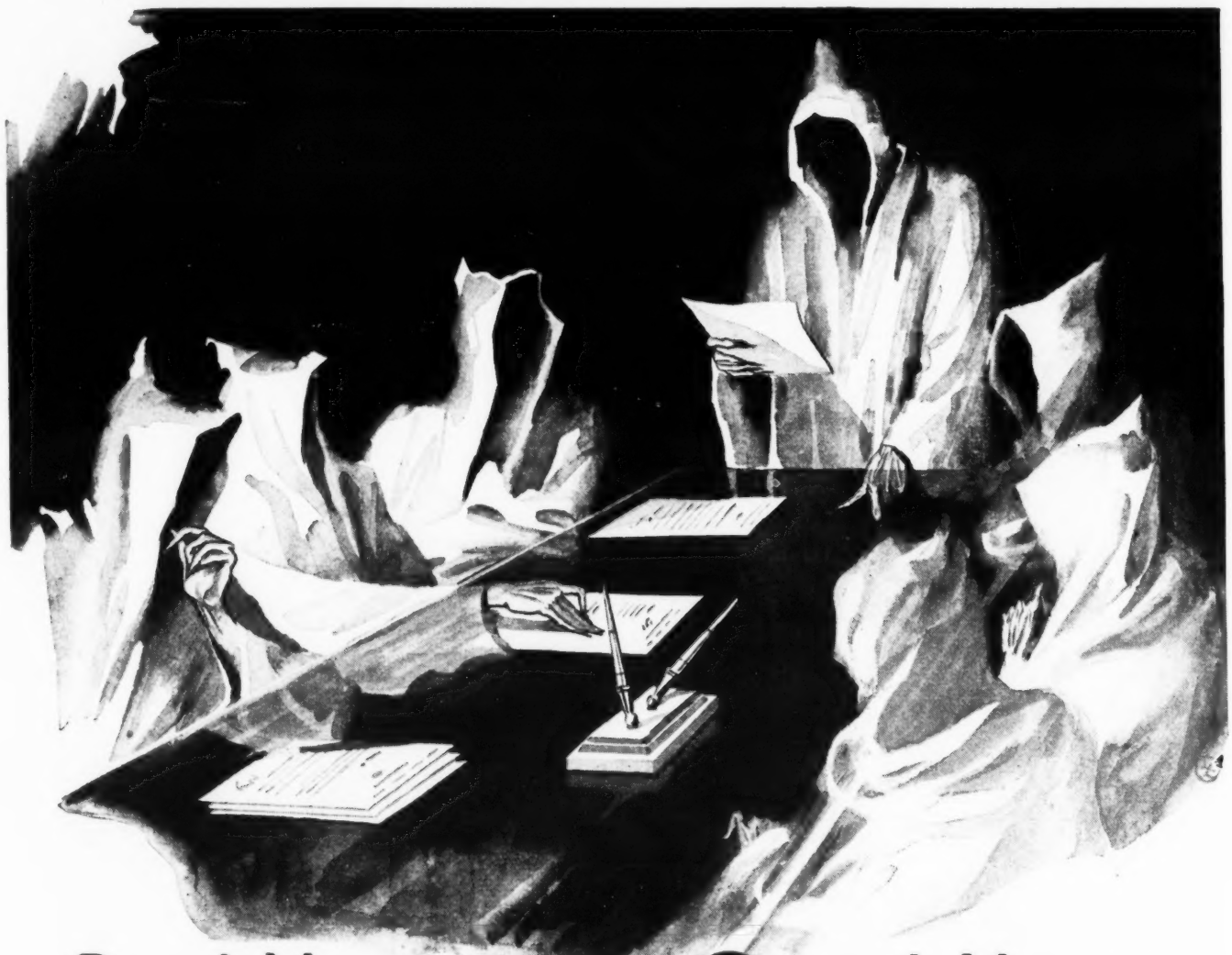

Bad Years are Good Years for Insanitation, Inc.

Especially in times of business recession and compromised expenditures this firm of Insanitation, Inc. votes itself big dividends.

Give this gruesome group just one faulty plumbing fixture, valve, closet, urinal or just one antiquated drinking fountain and their insidious work begins.

This is Soldier CARL "Rody" RODENHAUSEN, *Detroit Office, who helps defeat insanitation and excessive costs in that area.*

Any compromise in plumbing expenditures for a new building, any holding up of repairs or replacements in an old building too often allows Insanitation, Inc. to reap its filthy harvest.

In addition, the nickels and dimes seemingly saved through such compromises soon change into big dollars of repair and replacement costs that can be deferred no longer.

For more than fifty years the Clow Soldier of Sanitation has been fighting the firm of Insanitation, Inc., especially in public and semi-public buildings, schools, hospitals, industrial plants and the like.

During that long time Clow has developed the most complete line of specialized fixtures, for such buildings, in the entire world.

And the Clow Soldier of Sanitation has built up a background of experience that enables him to help you get the plumbing installation that will keep out Insanitation, Inc. for the years to come, without expensive repairs and replacements, and to get that installation at the most economical cost. There is no obligation in talking to a Clow Soldier of Sanitation. Call him in.

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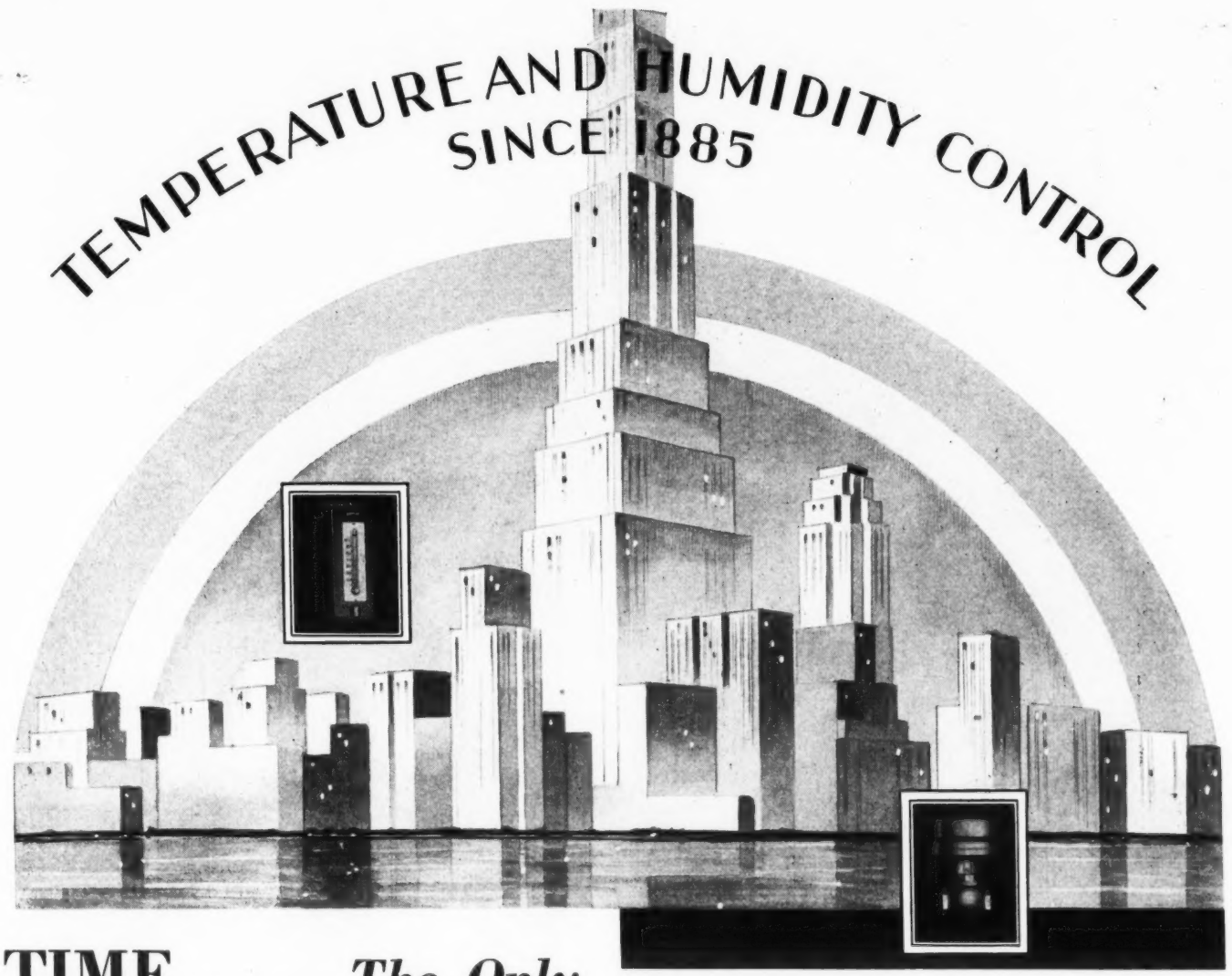
PREFERRED FOR EXACTING PLUMBING SINCE 1878

Consult your Architect



TIME . . . . *The Only Test That Tells*

Forty-seven years of temperature and humidity control puts The Johnson System definitely ahead and in first place. Enduring for that very long time is significant. That many years of experience is a basis best assuring reliability. That many years have furnished an invaluable fund of knowledge and experience for producing accurate and reliable apparatus for the control of temperature and humidity, and for the installation of efficient systems. The Johnson System is far beyond the experimental period. When the Johnson System is installed certainty of desired results, with permanence in efficiency and service, is assured. The time for consideration of temperature control merit is before purchase; the real test is after installation . . . which is always met successfully by Johnson apparatus.

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The All-Metal System, The All-Perfect Graduated Control of Valves And Dampers. The Dual Thermostat (Two Temperature or Night And Day) Control, Fuel Saving 25 to 40 per cent.

ST. MARY'S ACADEMY
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The Johnson Dual Two Temperature System of Heat and Humidity Control is installed in the gymnasium, auditorium, natatorium and dormitory sections of this new school building. Each one of these sections of the building is provided with a separate dual switch so that any section may be operated automatically at dual (one temperature for day, a lower temperature for night) or continually at day temperature, as desired in any department. The installation consists of 29 dual type room thermostats, operating 71 sylphon radiator valves. In addition to this room control, the temperature and the humidity of the air furnished by 2 ventilating systems is Johnson Controlled. And 7 Johnson pneumatically operated switches control the fresh air and foul air dampers in the building . . . .

E. Brielmaier & Sons Co.,
Architects, Milwaukee, Wis.
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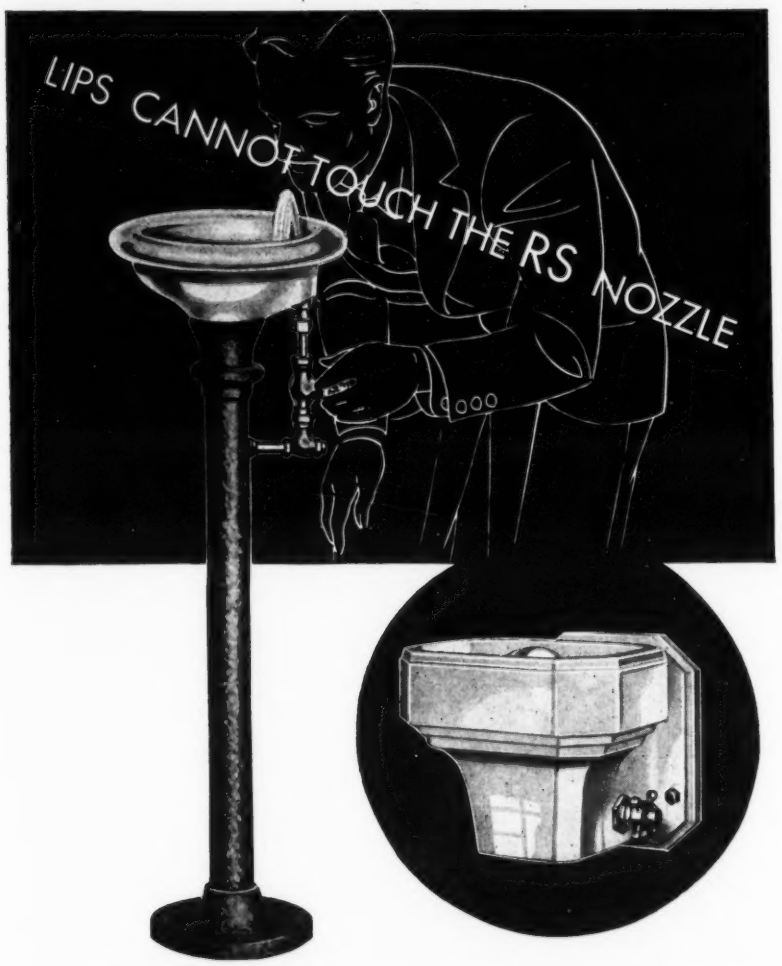
JOHNSON SERVICE

More Than a Bubbler

. . . Every Drink is a Sanitary One



Everywhere, in public buildings, parks and wherever people gather, the drinking fountain is the common meeting place. Therefore, consideration should be given the type of fountain. Remember it is humanly economical to install the Rundle-Spence . . . . . the fountain with unusual sanitary advantages.

The R-S Vertico-Slant fountain design makes it impossible for the user to touch his or her lips to the nozzle. Water spouts slantingly from jet to mouth, the excess falling into the bowl and not on the jet. Only the R-S fountains have Vertico-Slant health guarding features.

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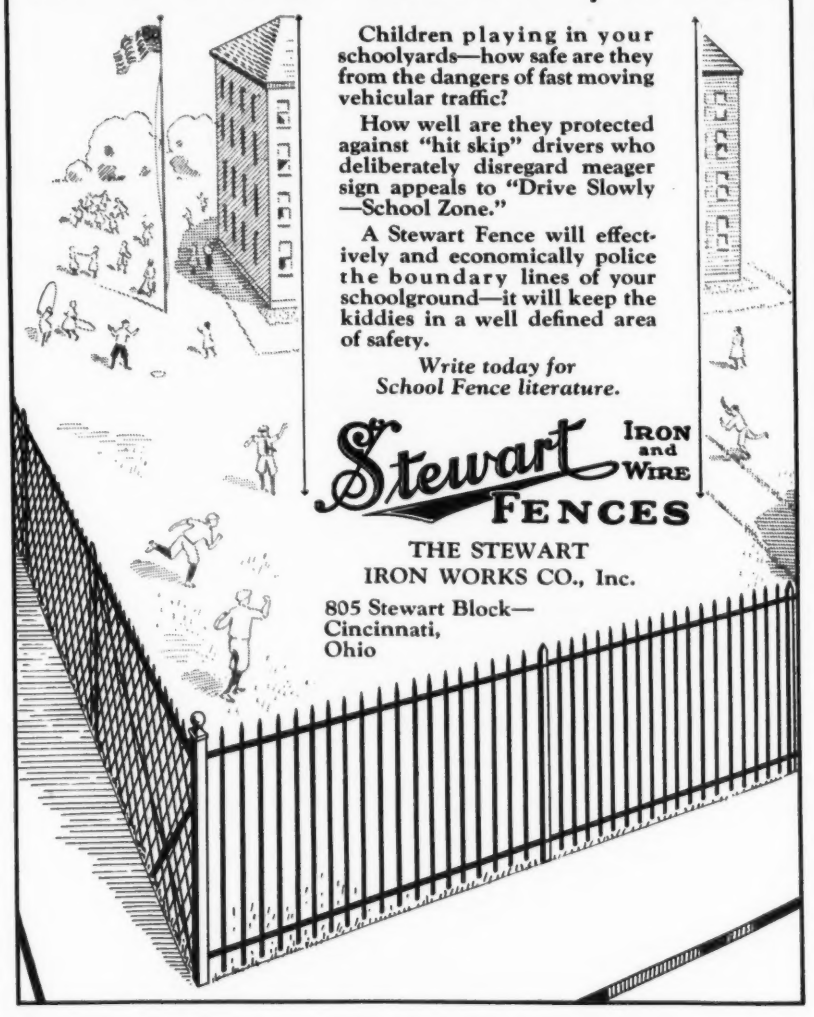

Children playing in your schoolyards—how safe are they from the dangers of fast moving vehicular traffic?

How well are they protected against "hit skip" drivers who deliberately disregard meager sign appeals to "Drive Slowly—School Zone."

A Stewart Fence will effectively and economically police the boundary lines of your schoolground—it will keep the kiddies in a well defined area of safety.

Write today for School Fence literature.

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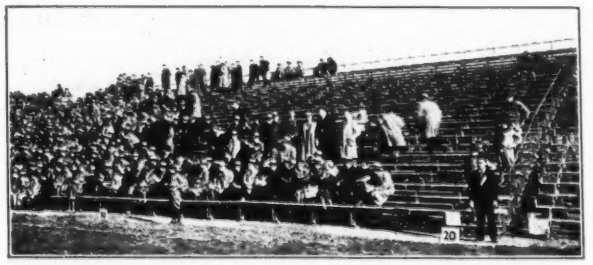

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Made in a wide range of types to meet every school need, the CROWN Flush Valve renders enduring, dependable service with no waste of water. The CROWN *Water Saver* cannot be held open to flush more water than it is set for—a feature that neither carelessness nor deliberate intent can affect.
The experience of Sloan engineers will help you to choose the type that fits your requirements. Offices in all principal cities make this service readily available.

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It goes on like water and hardens overnight. It then becomes a very practical form of floor insurance which you can have at trifling cost.

There are probably many floors in your own community that were treated with Lapidolith years ago. After much abuse they are still smooth, hard and dustproof. See them and you will be entirely convinced.

The application of Lapidolith is quite simple and your own janitor can do the job very satisfactorily. If, however, you prefer to use the trained Sonneborn service organization you can do so at very reasonable cost.

Let us send you the Lapidolith Book. It will give you complete information.

Note these famous Sonneborn savers of school buildings and maintenance expense. The coupon below will bring you detailed information

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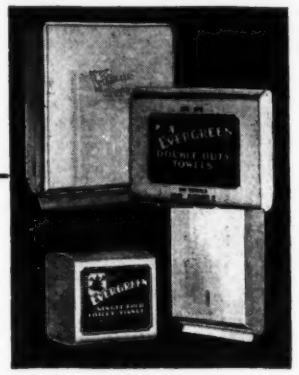

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When you buy toilet tissues and paper towels that are soft and absorbent, have you done your whole duty by the children? No . . . Their safety and health must be considered! And that means Evergreen brand . . . the *only* personal-use papers *protectively processed . . . with boric acid*, the one antiseptic universally recognized for its bactericidal action and positive safety. Soothing and healing, it safeguards health. Specify *Evergreen . . . it costs you no more.*

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MAKE SANITATION SURE

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Distinctive Two-Stream Projector Above Overflow

The stream always uniform, never too high, or never too low; ever sanitary!

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RALPH E. WHITE, Architect, Phila., Pa.

Many architects choose

TE-PE-CO'S SPEEDWAY

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CLOGGING of the passageway in a water closet is a frequent source of trouble, caused by people attempting to dispose of articles that will not pass the contorted trapway of ordinary closets.

Te-pe-co Sanitary Engineers designed the Speedway to overcome this trouble. The entire trapway being larger than its opening in the bowl will obviously pass anything that enters it. For this reason, it is particularly adapted to schools, public comfort stations, industrial and commercial buildings.

It is made with back supply for connection to a concealed or seat action valve, in both the regular and juvenile height.

Plate 4521-T—Back Supply Speedway Equipped with Flush Valve. Other models shown in Catalogue.

Details of construction showing large water surface and unobstructed passageway.

OUR GUARANTEE . . . We make but one grade of ware—the best that can be produced—and sell it at reasonab e prices. We sell no seconds or culls. Our ware is guaranteed to be equal in quality and durability to any sanitary ware made in the world. The Te-pe-co trade mark is found on all goods manufactured by us and is your guarantee that you have received that for which you have paid.

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ALL CLAY PLUMBING FIXTURES

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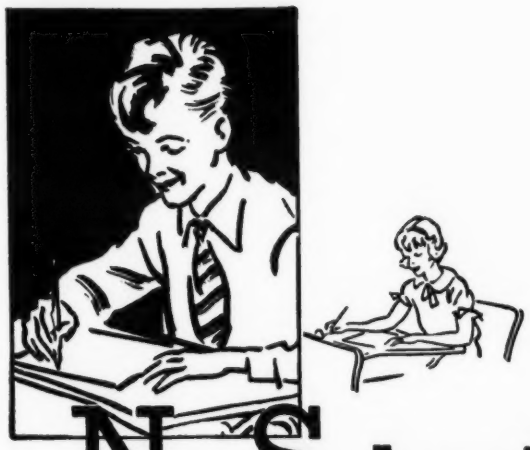

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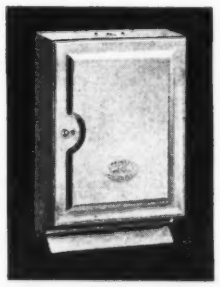
Don't risk serious trouble for your children by buying inferior, fibrous, spongy tissues—the kind that tear easily when wet, and thereby permit infection by the fingers. Children have sensitive, delicate membranes which, when irritated, can cause long sieges of ill health. No reason for you to take such dangerous chances when you can buy economically a safe tissue. A. P. W. Onliwon Toilet Tissue. Smooth-textured tissue of sheer thinness, but possessing superlative strength when wet, Onliwon Tissue is not easily punctured by the fingers. Properly absorbent and absolutely pure. Served two sheets at a time from hygienic cabinets, Onliwon is fully protected from prankish handling, dust, and dirt. Install A.P.W. Onliwon Tissue, along with its companion service, A. P. W. Onliwon Towels, in all your school washrooms.



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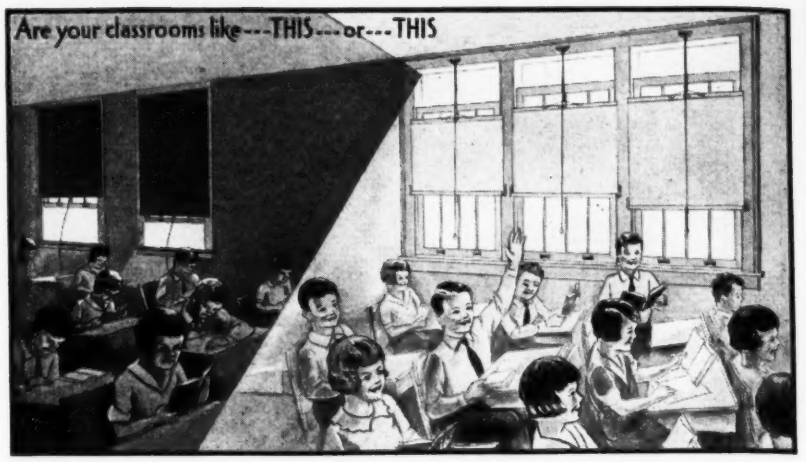

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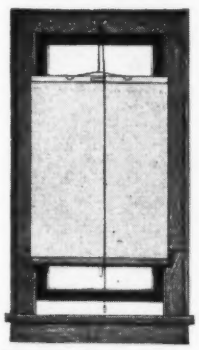
Adjustable from both top and bottom of the window, Draper Adjustable Shades permit the valuable top light to reach *all* the desks—even those farthest from the windows. Healthful ventilation is insured because windows may be opened from the top without flapping of shades to distract.

Durable, easy to install, economical, Draper shades meet the needs of modern schools and education as no other window shade can. Interesting literature and sample of Dratex cloth sent free to educators. Address Dept. A.A.



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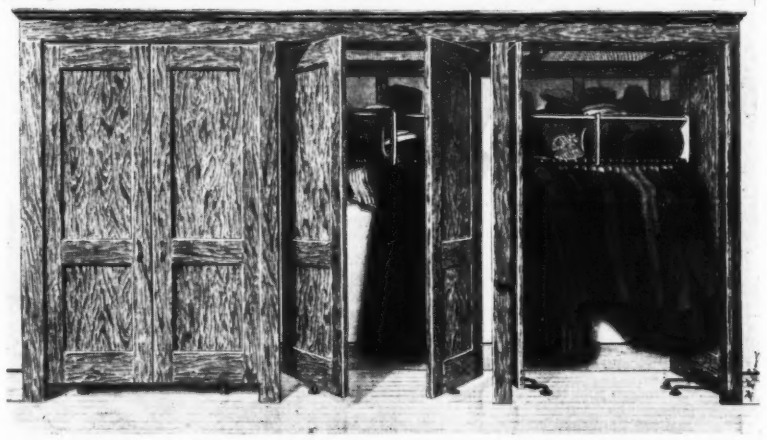


EVANS

"Vanishing Door" WARDROBE

●

Class J

equipped with either "Floor" type (as illustrated) or "Jamb" type hinges. This is Class D wardrobe if made with flush doors.

CLASSROOM WARDROBES

High in Quality — Low in Cost

This type occupies a recess flush with the wall. Plaster back and ends. No partitions, but with mullions between pairs of doors. Wire mesh ceiling. Blackboards if required.

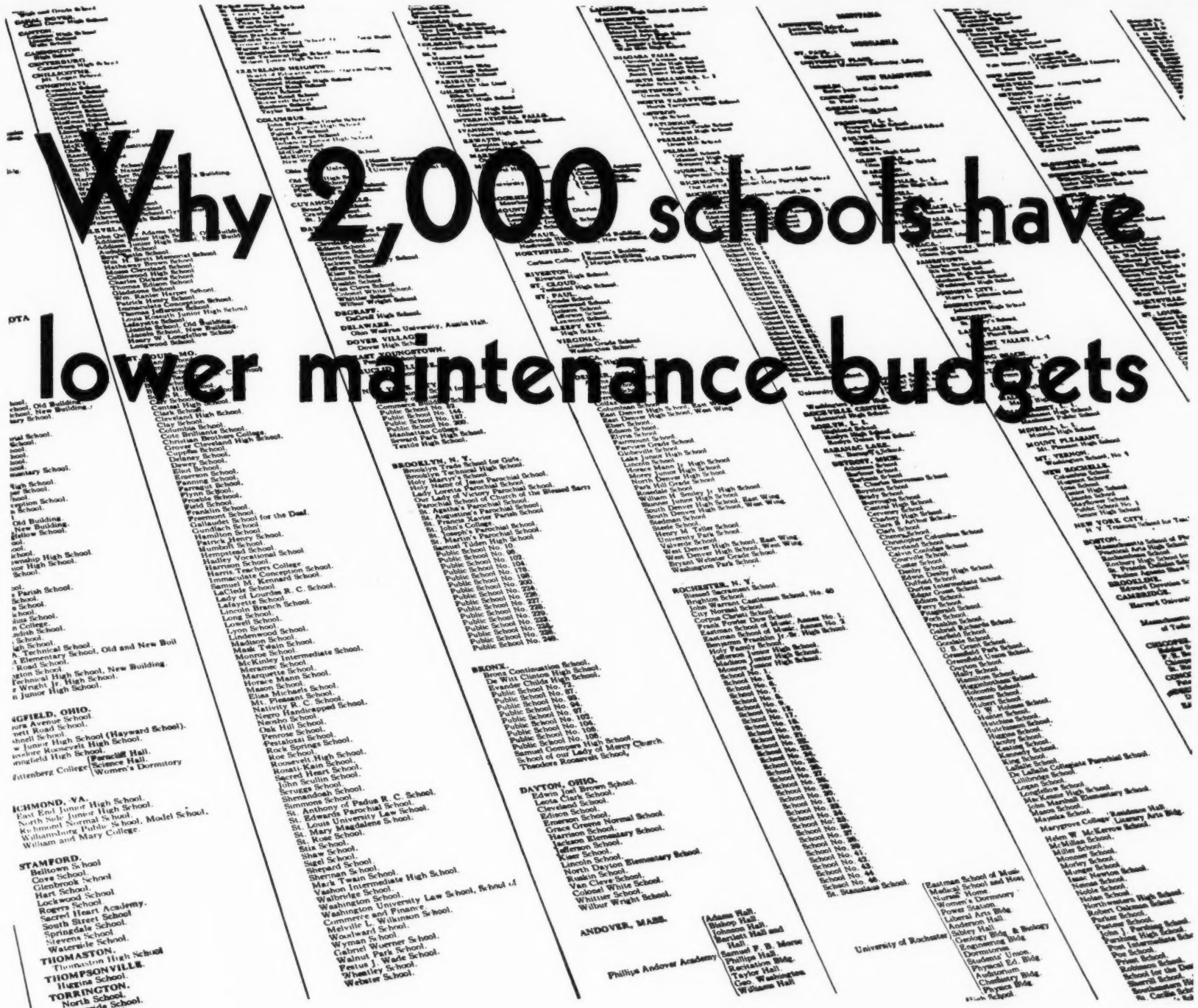
The "Vanishing Door" hinges on which the doors are hung are made with double pivoted arms and swing the doors back into the wardrobe entirely out of the way. Simple—trouble-proof—and last as long as the building.

Wardrobes are furnished complete in the knock-down, with all woodwork cut to size, and only need to be nailed in place. The hinges are easier to put on than common butt hinges. The entire cost of installation is small.

We make many other types of school wardrobes, fully illustrated and described in Catalog "L." Send for your copy.

W. L. EVANS

WASHINGTON, INDIANA, U.S.A.



Why 2,000 schools have lower maintenance budgets

MORE than 2,000 schools . . . . city and rural, old schools and new . . . . have been enabled to lower their budgets because Spencer central vacuum systems are cutting the cost of cleaning, of floor maintenance, of redecorating.

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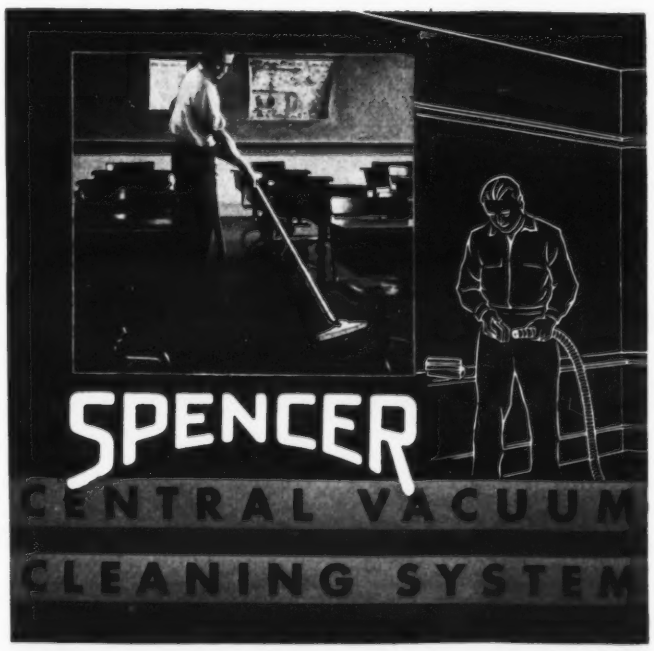
THE SPENCER TURBINE COMPANY
HARTFORD CONNECTICUT



1785

School Architects Directory

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Specialists Educational Buildings
LINCOLN BUILDING, CHAMPAIGN, ILL.

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SCHOOL SPECIALISTS
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at the Plaza — Hudson River Bridge to New York City.

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Specialists in Design of Educational Buildings
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REGISTERED ARCHITECT
Advisor to National Advisory Council on School Building Problems
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232 Madison Ave. New York City

At Your Service!

This directory offers a definite service to the schoolman engaged in the planning of new school buildings or the renovation of old ones.

The architects listed here are experts in the planning and construction of school buildings. Years of experience and careful study have qualified them for the rôle of trusted advisors and consultants. Their service has been thoroughly investigated and the acceptance of their advertising in THE AMERICAN SCHOOL BOARD JOURNAL takes the form of an official stamp of approval on their qualifications as school-building specialists.

When planning a new school building or addition, USE THIS DIRECTORY as your guide in selecting the service of an expert who is thoroughly acquainted with the multiple problems involved in the planning and construction of a modern school plant.

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William B. Bragdon
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T. H. BUELL & CO.
ARCHITECTS
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Specializing in Educational Buildings
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CARL W. CLARK A. I. A.
Savings Bank Building Cortland, N. Y.
Architect
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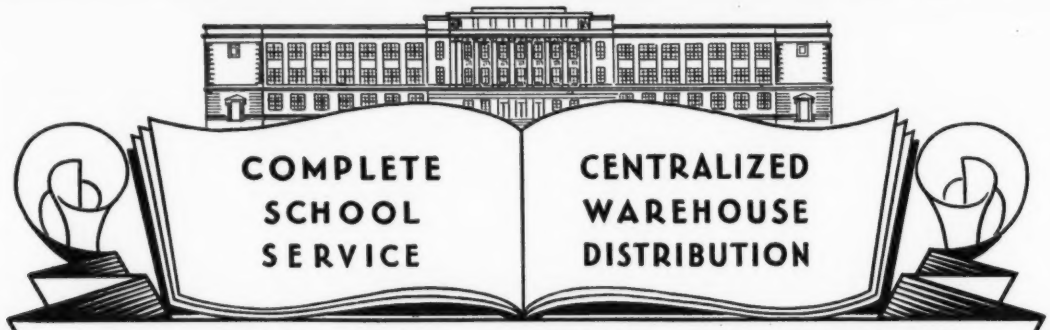
ADDRESS.....

CITY..... STATE.....



BUY FROM YOUR SCHOOL DISTRIBUTOR

DO NOT PYRAMID EQUIPMENT and SUPPLY COSTS

Adequate and up-to-date equipment and supplies should be a part of every school program for the school year 1932-33. They are the tools which aid the pupils and teachers.

The failure to furnish these necessities is an unwise attempt at economy. They are essentials in a well-balanced school system. School officials will store up future troubles if they refuse replacements.

To allow equipment and supplies to depreciate either in quality, condition or amount is to postpone a cost to a future time which is justly chargeable to the current year.

To retrench today is to pyramid requirements for tomorrow.

Now, as never before, the schools need normal requirements and they need quality products. They need every bit of wear and service from the things they buy.

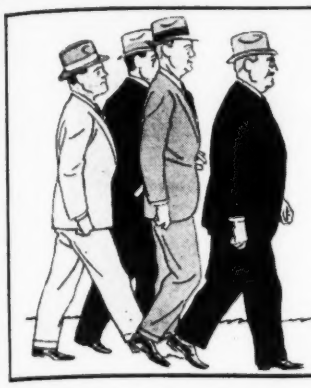
"Gyp Goods" will not fill the bill. Standard quality products will.

Buy normally in 1932. Do not pyramid costs for future years.

Correspondence invited on any problems relating to the purchase of school equipment and supplies.

NATIONAL SCHOOL SUPPLY ASSOCIATION

176 W. Adams Street Chicago, Illinois



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OUR NEW BUILDING IS JUST FINISHED - AND WE'RE INVESTIGATING FLOOR MAINTENANCE METHODS. WHAT DO YOU RECOMMEND MR. CRIMMINS?
JOHNSON'S WAX. WE'VE USED IT ON THESE FLOORS FOR YEARS AND THEY'RE MORE BEAUTIFUL EVERY SEASON. YOU CAN SEE FOR YOURSELF HOW THE WAX HAS PROTECTED THE SURFACE.

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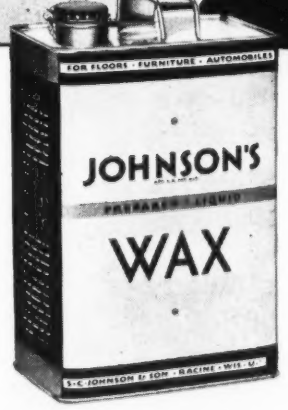
I'VE JUST READ A JOHNSON ADVERTISEMENT OFFERING TRIAL CANS OF BOTH PRODUCTS. I'LL SEND IN THE COUPON, THEN WE CAN TRY THEM BOTH.
GUNNOR



Which do you prefer?

● Have you tried Glo-Coat, Johnson's new self-polishing floor finish? If you haven't, send in the coupon and we will send you free a full size can. If you want free cans of *both* Glo-Coat and the regular Johnson's Wax, mark the coupon for both. Then you can decide which is best for *your* floors.

● Both products are backed by the reputation of S. C. Johnson & Son, Inc., for 45 years floor finishing and maintenance authorities.

JOHNSON'S WAX

For 45 years the supremely satisfying floor polish. Gives maximum protection, with a coat of genuine wax. Makes floors lastingly beautiful. Easily applied, and polished with the electric polisher.

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Address _____

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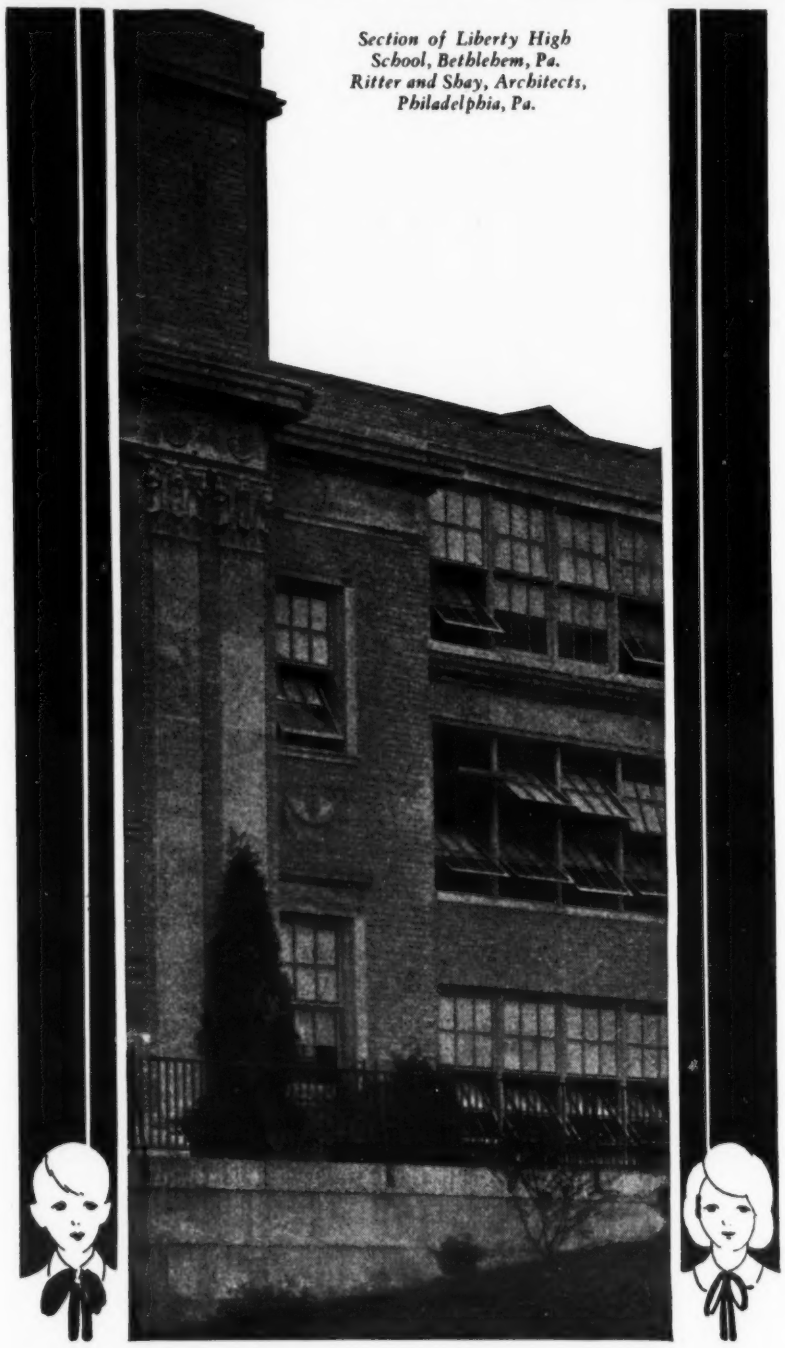
JOHNSON'S GLO-COAT

Needs no rubbing or polishing. Merely wipe it on the floors (*linoleum, asphalt base, rubber tile or wood — varnished, painted or shellacked*). Dries in 20 minutes or less, giving floors a radiant lustre, a hard beautiful finish.



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Controlled Classroom Ventilation . . . A *Vital Factor in Protection of Health*

Healthy bodies permit building of healthy minds and clear faculties. One of the greatest detriments to healthy alertness has been the lack of *proper* ventilation . . . and *proper* ventilation means *sufficient* fresh air introduced in the *right* place . . . *overhead* where it mixes with the warmer air levels without causing drafts. Williams Reversible Window Equipment meets the most rigid requirements of modern school architecture. Swings easily to correct ventilating position, and permits speedy, low-cost cleaning of all window surfaces from the *inside*. Write for our new catalog of window specifications.

The Williams Pivot Sash Co.
East 37th St. at Perkins Ave., Cleveland, Ohio

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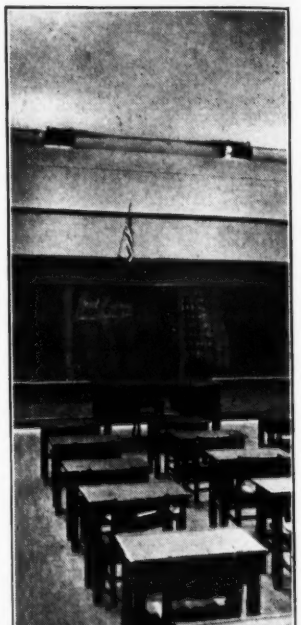
Clean Your Windows from the Inside

Give old buildings

A New Usefulness *by installing* HOLOPHANE Planned Lighting

It pays to light with Holophane. So efficiently does this highly scientific system bring the rays of Mazda lamps to the place where light is needed that it returns a material saving in annual costs.

Holophane meets *every lighting need* of modern schools. Complete lighting specifications are furnished without cost.—Holophane Co., Inc., 342 Madison Ave., New York.



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HOLOPHANE

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produces the greatest amount of useful light from Mazda lamps

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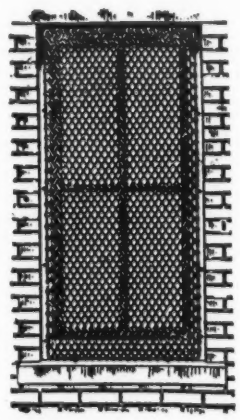

Smash goes the window—flying glass—perhaps a maimed child—certain cost.

Children in the excitement of play disregard warning rules and regulations. Balls are thrown blindly—even stones—in the wild enthusiasm and exhilaration of games.

Stop this risk of injury. Stop broken window cost and nuisance with Badger Safety Window Guards. They assure permanent glass. They are less expensive than one replacement. Write to your school supply dealer or to us for low cost installation figures—one window or a dozen.

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Teachers and pupils both benefit from outdoor rest and relaxation. In spring—summer—fall a sturdy Badger settee makes a park of shady school ground nooks. It will give hours of pleasure and pay dividends in better school work—at only a few dollars cost. The price list will surprise you. Write to your school supply dealer or to us for it.

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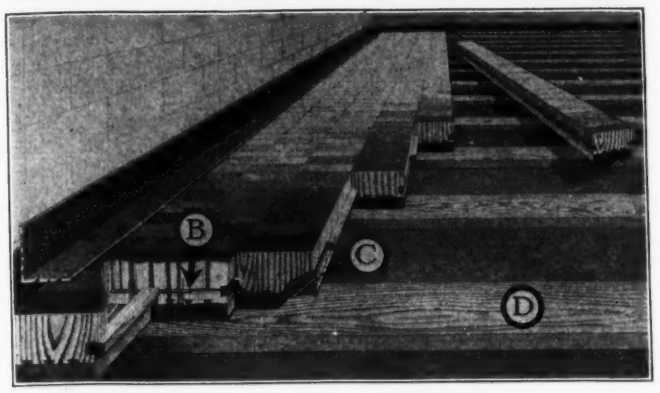

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The vacation period affords an ideal time to replace obsolete gym and shop floors with Bloxonend. Our service relieves you of all responsibility as it includes ripping up the old floor, putting the subfloor in condition and installing Bloxonend ready for a life-time of efficient, comfortable, economical service.

Over 500 schools and universities including Harvard, Princeton, Ohio State and Louisiana State have installed Bloxonend. It is handsome in appearance and absolutely safe....no splinters or slivers. An exclusive method of laying over strips with no fill between results in foot comfort or resilience that makes practice inviting and playing a pleasure. Equally satisfactory for shops.

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Comes in 8 Foot Lengths *The Tough End-Grain up*

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Especially Designed For Greater Convenience and Security

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Particularly adapted for use on school lockers, gymnasium wire suit baskets, and to meet the requirements of general padlock needs.

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Automatically locks when shackle is closed, and throws off the combination. *Shackle cannot be locked out when in unlocked position.*

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Furnished with each installation for the proper recording of names, locker numbers, lock numbers and combination numbers.

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Manufacturers of letter boxes for 50 years.

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The American Hardware Corporation, Successors
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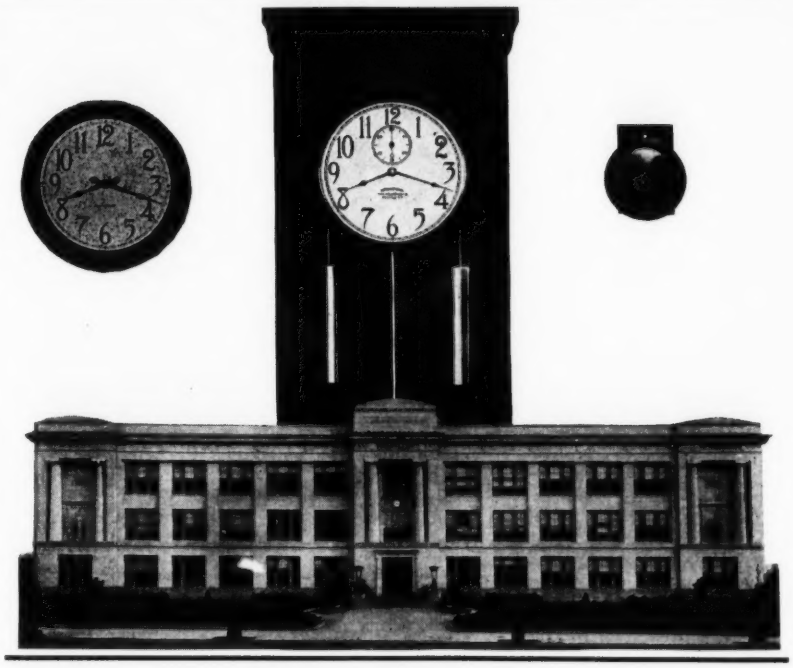

International combines EFFICIENCY *with* ECONOMY *in school administration*

Schools will open next Fall confronted with a twofold problem: Increased enrollment without increased operating funds. Strict economy measures must therefore be adopted, but never at the expense of efficiency. Every effort must be made to accomplish more with the least expense.

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This equipment permits greater teaching time; enables instructors to handle maximum sized classes; eliminates costly supervision; reduces maintenance (International clocks never require setting by hand); and establishes automatic control of class movement and study routines. All these items result in a *substantial reduction in the teaching cost per pupil.*

Actual surveys have shown that International equipment is saving the country's schools thousands of dollars annually.

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Division of International Business Machines Corporation

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THE INTERNATIONAL TIME RECORDING CO. 7-32-S
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Please send me a copy of your booklet "Time Control in the School."
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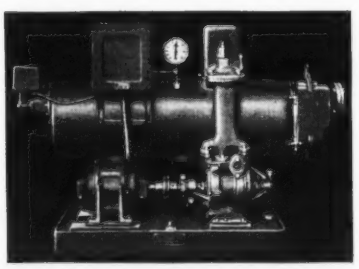
School .....
City ..... State .....

This Problem of Reducing School Budgets

TODAY school officials are considering costs as never before. Every piece of equipment must justify itself from the standpoint of outstanding value and operating economy. It is therefore no accident that such a large proportion of the new school installations of heating pumps are Jennings.

Jennings Pumps have far greater capacity and operate with less horse power. Operating and maintenance costs are less for a Jennings Pump.



And if you buy your heating pump on the basis of minimum power consumption and a definite air and water capacity, you can always buy a Jennings Pump at a lower first cost. Only by specifying a Jennings can you be assured of the utmost in heating pump value.

These are facts that we will gladly demonstrate and prove to any School Board or any group of Engineers. What more can be said than this?

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Jennings Pumps

VOL. 85
No. 1

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JULY,
1932

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CHICAGO, ILL.

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DEPRESSION MERCHANDISE

The manufacturer who is trying to uphold standards of quality is finding himself pushed harder and harder by price competition. True, the price of raw materials and labor have tumbled in the past two years. But is price the only factor we should consider in this readjustment period?

Isn't it a fact that the demand for lower prices merely continues the cycle of the depression? We are, economists claim, 60 per cent deflated and possibly the last 40 per cent of the deflation will be the hardest. But if the pressure is always on the price of your labor and my labor, if everything we buy and sell is to be measured only by price, are our American standards of social life to continue on a decent level?

Some school boards, sensing a demand for "price" standards, are lowering the quality of the furniture, equipment, and supplies to be used in the schools. They seem to be fearful of criticism and of unfavorable newspaper publicity. They forget that the universal experience and the solid judgment of executive school officials—business managers and superintendents—demands reasonable quality and service in all materials for educational use.

Economy is always to be commended. To buy cheap paint, poor toilet fixtures, cheap roofing, the lowest price janitor supplies, unhygienic seating, inferior school supplies may answer a popular demand today. But will not such articles injure education and will they not bring on severe and justified criticism later when the ill effects become apparent?

To lower the standards of education under pressure will affect the lives of thousands of American children. Extravagance is always a blunder, but a spineless response to public pressure on items which in a year or two will fail in service cannot be explained or condoned. "Depression merchandise" will be expensive in the long run.

FRANK BRUCE

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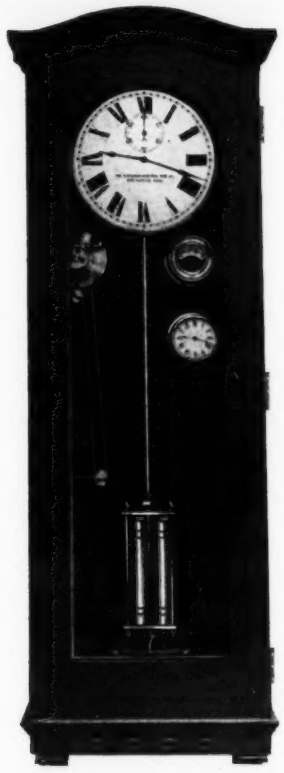
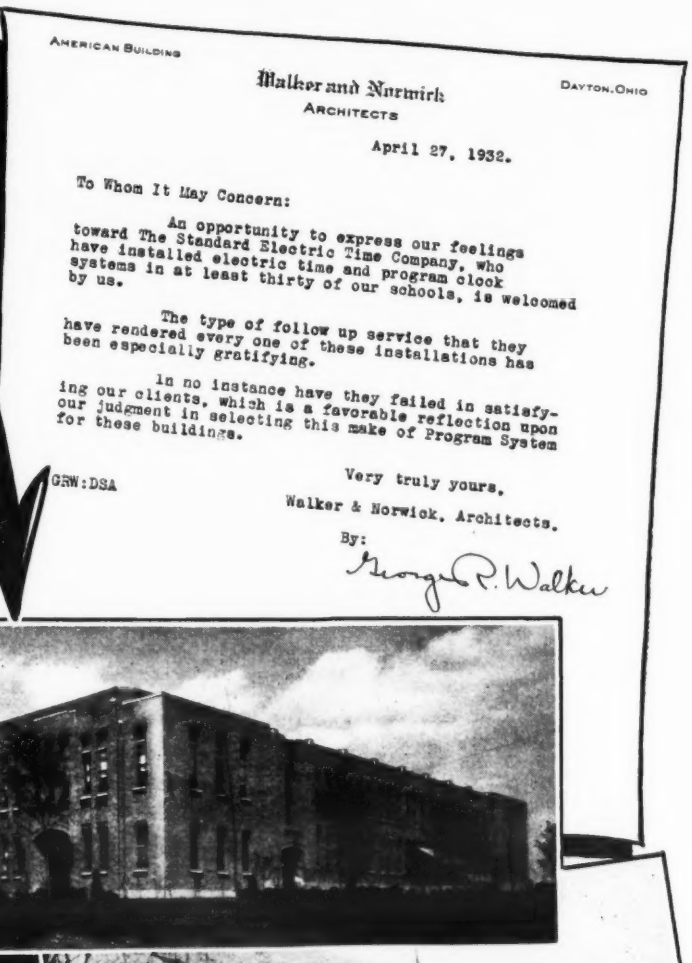
Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture, and related topics are solicited, and will be paid for upon publication. Contributions should be mailed to Milwaukee direct, and should be accompanied by stamps for return, if unavailable. Open letters to the editor must in all cases contain the name and address of the writer, not necessarily for publication, but as evidence of good faith.

The contents of this issue are listed in the *Education Index*. Member, Audit Bureau of Circulation and Associated Business Papers.



FINDING THE BEST ELECTRIC TIME EQUIPMENT and STICKING TO IT



AMERICAN BUILDING

Walker and Norwirk
ARCHITECTS

DAYTON, OHIO

April 27, 1932.

To Whom It May Concern:

An opportunity to express our feelings toward The Standard Electric Time Company, who have installed electric time and program clock systems in at least thirty of our schools, is welcomed by us.

The type of follow up service that they have rendered every one of these installations has been especially gratifying.

In no instance have they failed in satisfying our clients, which is a favorable reflection upon our judgment in selecting this make of Program System for these buildings.

Very truly yours,
Walker & Norwick, Architects.
By: George P. Walker

GRW:DSA

An example of how one architect solved the time problem for over 30 schools

Fairview High School
Dayton, Ohio

Fairmont High School, Van Buren Township, Ohio

No. Olmstead High School, No. Olmstead, Ohio

Walker & Norwick, Architects, Dayton, Ohio have equipped 30 of their buildings with Standard Electric Time Company's systems in the past 12 years. The above are three typical schools.

Architects and School Officials like to recommend and specify "Standard" Electric Products because of their intrinsic merit and satisfactory performance.

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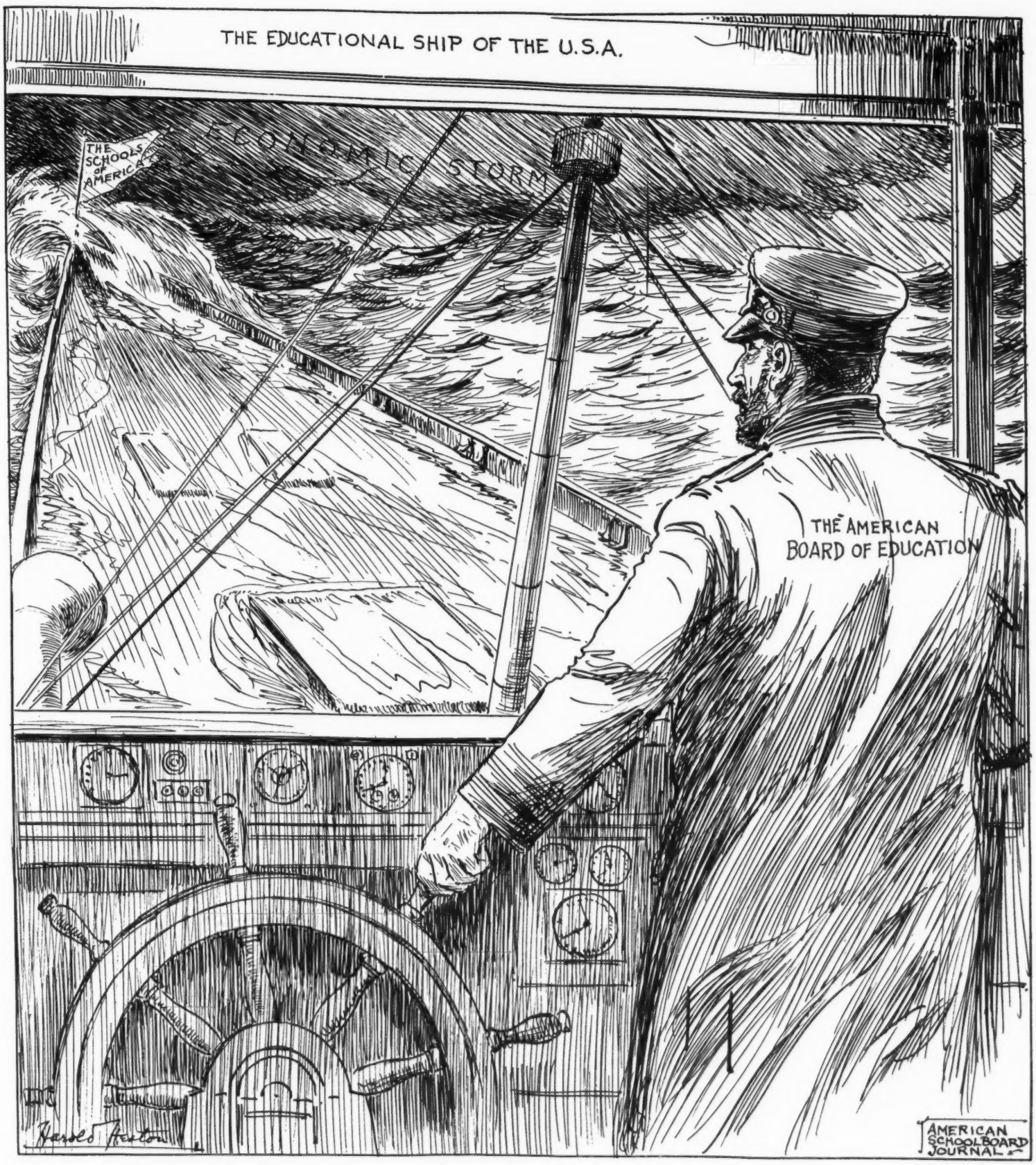

THE CAPTAIN ON THE BRIDGE IS CALM, SANE, AND SAFE!

How Are Your Schools Administered?

Dr. E. C. Hartwell, Superintendent of Schools, Buffalo, New York

As long as the public supports the schools and enacts laws compelling the children to attend them, the public, of course, must determine the policies to be pursued, specify the funds to be appropriated, and be the final authority on whatever is done in the schools. We are committed to a theory of government which defends the right of the people to make their own decisions, to pay for their mistakes, to profit by their experience, and to continue for all time as the ultimate source of authority in government. This authority, as it affects the local administration of schools, is vested in a board of education.

Powers and Duties of Boards of Education

The powers and duties of such boards of education are conferred by statute and vary with the size of the city, but all boards exercise one function in common. They all elect a superintendent of schools. Even a Sunday-school picnic has to have some responsible person in charge of it. A superintendent is selected only after a vast amount of deliberation, investigation, discussion, and compromise. It is easy to understand why a decision of the board in this matter is difficult. The board is looking for a man whose duties are acknowledged to be unusually varied and exacting. His hours will be longer, his preparation more extensive and intensive, and his tenure more insecure than the hours, training, and tenure of any other employee engaged by the board. It is hoped he will satisfy all the individual and collective interests of the community — religious, social, political, journalistic, juvenile, and adult.

The paragon for whom the board is looking will be expected to be above reproach in person and character, approved as to scholarship, acceptable or colorless in religion and politics, endowed with the vigor of youth and the wisdom of maturity, a missionary in spirit, and a pachyderm for punishment. The problem before the board might naturally be regarded as hopeless were there not numerous candidates all modestly claiming to meet the requirements and willing to undertake the responsibility. This fact, together with a desire to avoid a further deluge of letters and continuance of local pressure, accounts for the eventful selection of the man.

The new superintendent arrives, has his picture in the paper, is sized up by his future associates, locates his house, borrows the money to move his furniture, and sits down with his board to canvass the situation.

The board of education and the superintendent will find an immense amount of state and local legislation the effect of which is to mandate services, fix salaries, protect tenure, prescribe courses of study, supervise expenditures, regulate the employment of teachers, and require detailed reports.

They will find a public, in the main, uninformed about the work and purposes of its schools but filled with a vague dissatisfaction concerning their operation. Innumerable organizations with nebulous impulses in the direction of public uplift are endeavoring to graft on to an already overcrowded curriculum every variety of hobby. Professional educators are busily engaged in denouncing the methods of the past and hopelessly in disagreement about what should be attempted in the future.

The taxpayers' protective association, or some similar organization, is passionately preoccupied with alleged extravagance. The financial officers of the community are frantically seeking to reduce governmental expenditures. A swarm of surveyors, researchers, and alleged efficiency experts are thoroughly equipped to

This incisive picture of the city superintendent and his job will be appreciated by the experienced school-board member who is familiar with the problems and burdens which the chief school executive carries. The paper was prepared for broadcasting purposes, over WGY, May 11, 1932. — Editor.

confuse the public and bewilder the board with a mass of oftentimes conflicting directions, conclusions, and recommendations.

There will not be lacking in the community someone devoted to the collection of statistics dealing with local educational costs as compared with those of other cities. Of course, wiser people know that the chiefly important services of our schools are neither uniform nor measurable. But a graph and a table of figures sound "businesslike" and sometimes impress the uninitiated. There undoubtedly will be someone who believes that detailed cost-accounting is the panacea for the difficulties of administration. These parties sometimes are more interested in compiling the per-capita costs for liniment than they are in the technique of developing a winning team.

Superintendent Responsible for Administration of Schools

Confronted thus by innumerable limitations, traditions, restricted revenues, and conflicting opinions, the superintendent, as the chief executive officer of the board, is held responsible for the administration of the schools. Subject to the provisions of 750 pages of educational law, the regents' rules, innumerable court decisions, and the approval of the local board of education, his is the grateful task of satisfactorily assigning teachers, adjusting salary disputes, assuaging the grief of the disappointed, placating the discontented, explaining to patrons the reasons for unsatisfactory school conditions, holding out hope for the future, extenuating delays in the past, defending medical inspection to people who disbelieve in medicine and insisting upon compulsory vaccination at the behest of the board of health, avoiding as far as possible any friction within the ranks over discipline, religion, politics, race or color, conducting drives when public sentiment compels him, and protecting the regular daily program wherever possible, satisfying the inquiries of the press, answering questionnaires of graduate students, representing his city at educational conventions, enforcing the compulsory-attendance law, collecting birth certificates, issuing labor permits, arranging for voters' literacy tests, organizing extension courses for teachers and night-school classes for the foreign-born, introducing speakers, addressing clubs, presenting diplomas, rendering reports, making recommendations on every subject under the sun from the location of a garage to the latest movie scenario of Evangeline, protecting the schools from the importunities of the faker and the exploiter, inspecting school-building sites, passing on plans, giving opinions on the merits of competing brands of insect powder, ash cans, door knobs and burlap, comparing new textbooks, investigating grievances, answering correspondence, and acting as a sort of official fixer in the never-ending series of emergencies requiring his personal attention.

With the remainder of his time and energy he may visit classes, consult with the supervisors, principals, and teachers, read, digest, and assimilate the literature of his profession, consider necessary modifications in his course of study, investigate the improved methods of instruction always to be found in other cities, endeavor to originate some improvement in his own, and generally stimulate his organization to higher ideals of educational accomplishment.

Professional Help Limited

The amount of professional help provided for the superintendent in the discharge of these and other responsibilities will be strictly limited. In practice, the necessity for close supervision in the matter of snow removal, street repairs, smoke inspection, and building construction is much more clearly recognized by the public than is the necessity for competent supervision of classroom instruction. If the ratio of inspectors to workers employed in any other public service were used by the schools as to supervisors and teachers, our protective taxpayers' associations would come down with the malignant jitters.

The money appropriated by a community for education and the effort expended in administration produce satisfactory results only as the individual child receives from his classroom teacher a service which is at once skillful, efficient, and steadily improving. It is sound economy to provide adequate means of insuring such service. Teachers as a class, I believe, are unexcelled in their conscientious devotion to their work. But something more than zeal is necessary if children are to receive the kind of instruction to which they are entitled. Teaching technique, efficient use of school time, wise assignment of lessons, improved methods of instruction, care of the problem child, the proper grading of pupils, accurate evaluation of the results achieved — these and many other objectives are secured only under wise guidance, stimulus, and direction.

It is folly to assume that because a man is a college graduate he is, therefore, a good teacher, or that a summer course in Elizabethan literature with credit leading to a degree will necessarily improve the performance of an incompetent teacher of sixth-grade arithmetic. To pass a qualifying examination and to secure an appointment do not of themselves afford permanent assurance of competence. To have taught for 25 years without being dismissed, particularly under our permanent tenure law, is not necessarily convincing evidence of superior teaching. It is even possible for a teacher to prepare a class for a successful encounter with the regents' examinations and still leave something to be desired.

Neither extension work, compulsory courses, advanced degrees, examinations, achievement tests, rating charts, nor required reading — all excellent things in themselves — will quite take the place of individual stimulus and help. Sympathetic, constructive, and organized supervision of classroom instruction by people who are competent to give this service presents to my mind, one of the greatest possible opportunities to insure economical school operation, because it is the chief means by which a given amount of money may be made to provide increased efficiency in service.

To summarize and conclude: Schools are legislated for by the state legislature and the local boards of education. They are locally administered by an executive officer known as the superintendent of schools. The function of this official is to give to his community as wise and economical an administration of school activities as circumstances and conditions permit. His success will be conditioned by these circumstances and conditions, by his own ability, by the confidence reposed in him by his local board, by the public attitude toward a program of educational opportunity for the children of the community, and by the amount of competent help provided for his assistance in carrying out such a program.

Yardsticks and Barometers for Measuring the Efficiency of School Business Administration[1]

N. Bradford Trenham, Los Angeles, California

Why is all emphasis placed today on yardsticks and standards in public-school administration and in other branches of government? Everyone who has a thought on the problem has his own ideas, but there are some explanations on which we can all agree. America these past 40 years has been completing the final chapter of the frontier stage of our national development. No longer is there good free land for the discontented town dweller that he may escape the discipline of group life and establish himself as an individual producer on free government land. More and more of our people are becoming parts of the great industrial machines which we call civilization, and are crowding together into compact communities.

The type of life which naturally follows from this concentration of population must of necessity be different from that of our forefathers. We cannot afford the wasteful and haphazard hand-to-mouth living that characterized America a century ago, simply because that type of life will not satisfy the needs for goods and services that have been set up. A more efficient type of life is required; more values must be extracted from every public and private dollar if we are to satisfy those needs.

There are those who regard this depression as merely a passing incident in the history of business cycles. I disagree heartily with this point of view for there is something much more fundamental involved than is frequently suspected in the down trend of business activity and commodity prices. There is evidence of a new kind of thinking, more scientific attitudes toward problems, and a demand for practical results. Those who believe that, if they can survive the present depression, they will be all right when boom times come again are deceiving themselves. We shall be a different people after this depression is over, just as we are a different people every decade. It behooves those who have charge of the public business to anticipate the trends that are in sight.

Parallel with the growing complexity of industrial civilization runs the necessity for more accurate measurement. We have already achieved a high degree of accuracy in engineering and scientific measurement, but in the fields of management, politics, and those branches of human activity that deal with people, we are but babes in the woods. These will be the fields in which the principles of accurate measurement and scientific management will grow within the next decade. It behooves all of us who deal with public problems to be prepared for greater accuracy in our measurements, and greater efficiency in our operations.

Government takes more than thirteen billion dollars annually from the earnings of the people. Of this huge amount, nearly a fourth is consumed by the public-school system. Your place in the total picture is an important one. You have control of hundreds of millions of dollars of the people's money. It is up to you to know what those dollars purchase, which functions are most important, and what can be safely eliminated. There is no group of men connected with education, perhaps no group connected with any governmental activity, that knows its business better than you or that approaches the solution of its problems more conscientiously.

There have been times in the past when a public official was inclined to think that the public did not appreciate scientific management, and those who were the best friends of the public were laughed to scorn for their theories. Those times are past. Everyone agrees that this is the case at present — that efficiency is demanded and more and more people believe that this mental attitude will persist and grow in the future. As the population of our country approaches the stationary point and our life becomes more like that of European nations, our efficiency must approach them as well. It is only a matter of time until density of population and pressure on natural resources will make us as careful of our operations and the conservation of our resources as any Frenchman or German.

There need be no fear that people will not welcome the use of yardsticks and measuring devices in the prosecution of their business. There will be greater faith in skill and expertness, for it will be easily demonstrated that without them we are lost.

Public education in America is established upon solid rock. The people believe in free public education for the children of the nation. However, do not be led astray by educational theorists and professional propagandists who would have you believe that the people will acquiesce in all kinds of practices merely because they believe in the principle of public education. The pressure for efficiency in the schools will be as continuous and as unrelenting as the same kind of pressure against other departments of government and against business.

You have the duty to see to it, insofar as it is in your power, that common sense remains uppermost in educational administration. By your attitudes you can, to a large extent, control the vagaries of educational theorists. If you would protect them from themselves, you can keep before them the question, "Is the product worth the cost?" You can make the business administration of the schools so smooth and harmonious that the creative efforts of the classroom teacher will bear greater fruit than ever before. You can be an influence for moderation, sanity, adequacy, and harmonious operations.

Definitions Underlying This Discussion

First let us define yardsticks and barometers. By "yardstick" is usually meant a measuring device by which an activity can be judged as to its cost and its results. For instance, cost per cubic yard is a yardstick for measuring excavation, and miles per gallon partially measures the economy of your motor car. By "barometers" we mean the indicators of danger points — signals calling for a change of policy.

SCHOOL-BOARD QUALIFICATIONS

The school children deserve members on their boards of education who can make up their minds for themselves without "passing the buck." The most useless member of a school board is the one who has to go out and ask his uncles, aunts, and cousins how he should vote on this or that school problem. There is equally as strong an argument against the school-board member who is employed by some corporation and has to consult the officers and half of the customers, or members thereof, before he knows how to vote in the school-board meeting. Some people may not think that it would be necessary to demand this third qualification, but it has been my observation, after working for, corresponding with, and interviewing hundreds of members of boards of education, that a good many people who are interested in the common schools and who have lots of intelligence and common sense do not have the courage of their own convictions. — Fuller L. Austin, Deputy Superintendent, Nebraska.

Accounting and the Yardsticks

If we would have effective yardsticks and barometers to measure the efficiency of school-business management, we must conscientiously and consistently strive to set them up. Underlying all of the work of the business manager is the necessity for adequate, proper, and useful accounting. Accounting is not in itself a yardstick. It is the means by which the yardstick is applied. It is no longer sufficient to keep the books of government on the "cash-flow" basis. The citizen must know more than the simple facts that so much money has been collected and so much has been paid out. There must be cost accounting for every function and activity of government; governmental units that are too small to afford this fundamental necessity must ultimately disappear. Books must be kept on the accrual basis and there must be cost-accounting data readily available to administrators, governing boards, and citizens that tell correctly and rapidly the essential facts of government. Every school district should be able, on short notice, to supply information concerning its operations, broken down and translatable into terms that citizens can understand. There needs to be not only accounting for dollars but accounting for materials, accounting for time, and accounting for children, that will reveal what the taxpayers' dollar is purchasing.

We cannot have yardsticks to measure school-business management if we cannot be agreed among ourselves that an inch is an inch, a foot is a foot, and a yard is a yard. We do not have that agreement yet, but uniformity is being evolved and we are coming to speak the same language. This is one part of the governmental machine that must be operated by thoroughly skilled people. The yardsticks of accounting must be so accurate that no administrator will have an alibi for bad management. They must be so unanimously agreed upon that no one can say, "My conditions are so different that they cannot be compared with anything else."

Cost Figures Must be Centralized

All the cost figures of the school system should be centralized in one place. It should be possible to hold one official responsible for all of them. They should be kept so that year can be compared with year, so that long-time trends can be ascertained and long-time future programs laid out. The hand-to-mouth living, the opportunist thinking, the empirical procedures that characterized the first one hundred and fifty years of our national existence are inadequate today. We have come to a time that requires planning, foresight, and forethought in a greater degree than ever before. The pressure of population has made it necessary for us to husband every resource and to plan public activities as we never had to plan them in the past. School-business officials are the ones upon whom this responsibility particularly devolves.

Most large school districts in California have an official called an auditor, which is probably a misnomer since this officer's work is more accounting than auditing. The practice is practically nation-wide. This association might well give serious thought to the suggestion that real

[1]This important discussion is an abstract of a paper read by the Secretary of The Educational Commission of the California Taxpayers' Association, before the Twenty-First Annual Convention of the National Association of Public-School Business Officials, Los Angeles, Calif., May 27, 1932.

school auditing should either be done by an outside organization not connected with the school district, or that there should be a system of state inspection of accounts carried on by men who have no prejudices and no direct responsibility to the district being examined. Those in charge of accounting in many school districts would do well to scrutinize their figures and their methods to see if they are keeping only necessary accounts and to determine that all useful data is available.

The Budget a Contract

Use and understanding of budgets are among the most hopeful signs in public administration in our country. One can grow enthusiastic over the history and development of the idea of budgets. School budgets have been regarded too frequently as legalistic tabulations of anticipated expenditures with which to calculate a tax rate, and too seldom regarded as working plans for the administration and control of a whole series of operations.

The budget, as California Taxpayers' Association views it, is a sacred contract entered into by the citizens and taxpayers on one hand and by public officials on the other. It is the promise of the public that it will make available so much of its funds. It is the promise of the officials that they will spend these funds in the agreed-upon way set down in the budget. The budget then becomes a covenant and deviations from it become a breach of trust. When the officials of a government and the citizens have mutually put their stamp of approval upon a proposed budget, it becomes an implied contract. It is unfortunate when accounting procedures are so inadequate that the administrators do not know whether they are carrying out the program set forth in the budget.

There should be discussion about what goes into the budget before it is established, not afterward. The insistence of taxpayers that every unit of government should operate on a budget, that it should make its budget in consultation with citizens, that it should hold public hearings, is a valuable safeguard to public officials. Most right-thinking citizens, if given the opportunity to participate in budgetmaking, will stand behind the administrators in their operation of the budget and not impede their work of carrying it out. After all, the money expended for government is the people's money; they have a right to say how much of it shall be spent and for what it shall be used.

Budgets Based on Needs

There is no place in school administration where the use of yardsticks is a greater help than in the making of the budget. It is here that the measuring devices used during the year have effect and take on meaning. Budgets should be based on needs — demonstrable needs — calculated on unit costs of service, and should be designed to purchase the number of these units of service that the citizens feel they need for the least number of dollars. Some have commented that there has been too much interest displayed by public officials in how much money they could get in making their budget, rather than how little they would need to operate. It must be embarrassing to a spending agency to set up a budget, which, in effect, says, "This is the smallest amount with which we can operate," and then some unforeseen circumstance arises and they have to operate with considerably less money. We should not think of budgets as increasing or decreasing from last year's figures, but should build them up on the basis of needs for services and ability to pay. Otherwise unnecessary expenditures may be perpetuated long after the need has disappeared or necessary functions may be curtailed by thoughtless slashing.

The definite and legal budget is made for only a year, but every district should have a tentative five- or ten-year budget with which each year's operation dovetails. This has been difficult in the past owing to rapidly changing personnel and the difficulty of establishing continuous policy. However, there is a tendency for administrators to become more permanent and there is being built up a mass of practice and data which should help in ironing out the peaks and valleys of government. Eventually, we shall get away from the situation of a governmental feast in good times and a famine at other times.

Budget Reserve Accounts

School budgets have not been all that they should be concerning reserves. It has been difficult, or impossible, openly to carry reserve accounts, so that officials have been forced to resort to subterfuge and to build up reserves in other accounts rather than carry them openly as they should be carried. Yardsticks can easily be set up concerning the reserves that a district should have; its general fund reserve should be adequate to carry operation over the dry period without the registration of warrants. Other reserves should be set up for capital outlays, perhaps even for calamities. These are things upon which snap judgment cannot be passed. They are problems worthy of consideration for they contribute to the long-time, harmonious operation of government.

Budget control after the beginning of the fiscal year should be just as careful, just as effective as budget preparation before the beginning of the fiscal year. Every account should be encumbered as commitments are made. At the close of each day's business the administration should be able to tell the situation regarding every account. When the appropriation for a function or an item is exhausted, there should be no more purchases against that account unless absolutely necessary, and then funds should be transferred from the reserve on action of the board of education duly entered in the minutes with explanations. In this way the administrator is freed from the suspicion of juggling accounts and not living up to the contract entered into with the public when the budget was established. All of these things are well known. But it is equally well known that in practice they are not carried out. Perhaps these stringent times will strengthen the business manager's arm in enforcing good practices.

Let business managers of schools at this time give thought to necessary legislative changes and necessary voluntary agreements, that we may within a year or two develop in the American public-school system such perfect accounting and budgetary procedures that there shall be no mystery left in the picture for the intelligent citizens who are honestly trying to understand their governments.

Maintenance and Operation

May we now hastily consider the housekeeping functions of the business department of school districts? The business department should have a record of every building in the school system. This record should show all of the necessary information, including cubage, square footage, pupil capacity, etc. It should be possible by reference to these records, for the central administration to plan its distribution of pupils and activities with considerable ease.

Unit costs should be worked out for each of the maintenance and operation services, such as janitorial and gardening, to show the amount of work done by each kind of mechanical worker. Naturally, adjustments have to be made for different kinds of services. In the question of heating, the cost per hundred cubic feet for heating a building from a certain temperature to a certain temperature should be constantly at hand. These costs should be kept on record in parallel columns so that years can be compared with years, the district compared with norms, and different kinds of equipment compared with each other.

The costs of shopwork, laundry, etc., should be figured carefully, including all cost, so that the board of education can tell at any time whether it would be cheaper or better to buy a service rather than to perform it themselves. These costs should constantly be checked with private costs. In the school costs should be included overhead factors, interest on the capital investment, etc., so that the figures will be truly comparable and real yardsticks.

Cafeterias should be truly self-supporting. Their costs should be checked against private cafeterias, and there should be no deficits to be made up from the general fund. The electricity and gas attributable to the cafeteria are as much a cost as the food. It may be necessary to use separate meters for determining these factors.

There should be a job analysis of every job under the supervision of the business manager, so that he can tell at all times what each dollar he spends is buying. Then he can tell what he can afford best to give up when funds are not forthcoming; and he can tell where additional money can be spent to the greatest advantage.

Under this heading, it might be well to point out that the business manager can frequently influence the financial picture of a school district by urging that, in new construction, classrooms be built large enough to accommodate classes of reasonable size. It is very difficult, when the necessity for economy arises, to increase the teaching load if the buildings were built for small classes and there are physical obstacles in the way of increasing the teaching load. The degree of utilization of each building and each room might well be a matter of record; a constant check-up, coöperatively, between the business department and educational department should forestall the need for sudden and drastic readjustments.

Purchasing and Supplies

Yardsticks in the purchase of supplies are relatively simple. The most important yardstick is the unit cost of supplies. The district should know at all times how its unit costs compare with other similar districts, also how the consumption of the various supplies compares. The cost per pupil and the volume per pupil are useful yardsticks. The cost of administration of the purchasing department is somewhat of a check on its efficiency. The purchasing department should know at all times its costs per dollar of purchases. It might well fall in the range of 1 to 3 per cent, depending upon conditions, but when it gets too high you have a barometer that indicates a storm is brewing. Many school districts would profit considerably by having a successful purchasing agent from a private concern go over their purchasing procedure with them and make suggestions for economy. Would it not be a useful thing at conventions and at meetings to form contacts with men who perform similar functions for private companies or for other governments? There may be a useful interchange of ideas if this is done.

There should be a definite understanding between the business manager and the superintendent that teachers, supervisors, and principals will not be allowed to change their minds concerning supplies and requisitions after commitments have been made. I know of some school-district warehouses in California where dust-covered supplies indicate that somebody's expensive idea was changed before the materials that had been ordered to carry it out were used up. Let the superintendents impress upon their teachers that public money is not as "manna

from heaven" and that they should think about what they are going to use during the course of the year before they buy it. Many superintendents probably overlook the importance of this situation. There is no one in a better position to bring it to their attention than business officials.

A great many districts can improve the efficiency of their purchasing and stores management by analyzing the variety of the items they stock. Doubtless, most of them could dispense with a great deal of the diversity in stock by explaining to the superintendent, and through him to the board, that costs can be reduced by simplifying supplies and not yielding to every whim of some teacher or supervisor for something new.

Old Materials a Sign of Inefficiency

Another yardstick in this department is the amount of old material on hand at any one time. This year a great deal of the old supplies will be used up, for there are not many districts which haven't got stored away enough supplies to run them for months if they could bring their teaching force to use them up before new supplies are ordered. If business officials will point out that every dollar saved in supplies this year and in maintenance and operation is that much less pressure on salaries, they will have rendered a service to children, taxpayers, and teachers.

Economy becomes shortsighted, however, when supplies of standard materials are carried in insufficient quantities and the educational program is held up while awaiting new articles. Through a system of stock records and flagging, it should be quite easy to tell when the danger point is approached in any item of stock.

Purchasing agents, in fact, most governmental officials, must contend with the theory of buying at home and, although they know the answer to this problem, they have not always been able to overcome shortsighted pressure on this point. With a tax-conscious public, however, it should be easier to explain to citizens that they are penalizing themselves as a group when they subsidize a few at the expense of all by paying higher prices for products. One way to overcome this pressure is to explain frankly to the citizens that part of the school efficiency and economy program depends on open bidding in a wide area. Every time a local vendor is favored where he cannot meet his outside competitors, an unjust tax is levied against all the rest of the community. This is one of two things. If the amount is small, it is petty larceny; if the amount is large, it is grand larceny. This is one of those places where administrators must carry with them the support of intelligent citizens to hold up their hands when they are trying to serve the general welfare.

A final suggestion for those districts which do not already do it, is that they speed up their receiving, checking, and paying operations in such a way that advantage may be taken of every cash discount. During the course of a year, these frequently prove to be a considerable item. Yardsticks of promptness are easily set up and are most useful.

Transportation

In recent years, the transportation of school children has become an important factor in school costs, particularly in high-school districts and other districts in sparsely settled country. It has been found that about 11½ per cent of the maintenance budget for union high schools in California is used for transportation. An item of this size deserves a set of yardsticks for its measurement. Just as the use of proper accounting methods underlies the creation of yardsticks in other school expenditures, so does it in this case.

Yardsticks for measuring transportation efficiency are relatively simple, and transportation accounting presents very little difficulty. It is possible now to secure transportation accounting records that make it simple for the administration to know the position of this function at all times. The most useful yardsticks are the cost per seat mile and if all of the equipment is similar, per bus mile. The cost per passenger carried is not of much value, although this is a figure frequently used in comparisons. Other yardsticks that can be used in connection with transportation are the cost and consumption of oil, gasoline, tires, etc. The miles driven per dollar of remuneration to drivers, the cost of insurance, repairs, etc., are readily ascertainable with proper accounting. Every district should have a continuous record of its transportation activities running back several years for comparative purposes, and should be constantly on the lookout for more economical practices in other districts or in private transportation companies.

All the responsibility for transportation should be centralized in one official of the school system. There should be an adequate check on supplies, and no chances should be taken with defective equipment that imperils the safety of the passengers. Some savings can be made by insurance adjustments for those months when the busses are not in use, by seeing to it that no more equipment is maintained than is necessary, that all vehicles are kept in good repair, that bus routes are laid out with the least waste of time and travel, and that a reasonable maximum walking distance is enforced.

As the movement for consolidation increases, the item of transportation will probably loom larger in school budgets. It behooves every business official to be informed concerning this activity and to scrutinize the practices of his district to see that transportation does not become an unwieldy and uneconomical factor.

Insurance

Like transportation, insurance yardsticks depend on proper accounting. The yardsticks most useful here are rates per hundred dollars of coverage for each class of risk, percentage of insurable value covered, and overhead expense of this item.

Many business departments have already examined their insurance coverage the past year or two to see that they are not paying for more insurance than they could collect. Those that have not will probably find it of advantage to have the buildings and insurable property reappraised and adjustments made in coverage. With the decline in building prices and in commodity costs, many buildings are insured for more than their replacement value. The premium paid in excess of proper coverage is so much money wasted. Here is one place where there can be no doubt that retrenchment will not impair educational efficiency.

Business officials might well investigate the possibility of some coöperative insurance arrangement for groups of districts or for whole counties, whereby blanket coverage might be secured at lower rates than coverage of individual risks. Every district should maintain intimate and coöperative relations with the fire department in its jurisdiction. Periodic inspections by fire-prevention experts can save a great deal on premiums by pointing out risks that might be overlooked by the people who see them every day. All those who use the buildings should be cautioned and educated to an appreciation of the value of the property intrusted to their use.

Every district should make sure that it has the right kind of coverage for each kind of risk. It is ridiculous to find a fallen-building clause in an insurance policy on a corrugated-iron building and probably just as ridiculous to find it left out of one on a brick or tile building. Some districts that I have known had about the right amount of insurance coverage in total, but the distribution of it was such that had they lost "Building A" they would have been fully covered, in fact, they were more than fully covered and could not have collected all of the insurance they thought they were buying; on the other hand, if "Building B" should burn, there have been cases where there was no insurance or only 15 to 25 per cent coverage. In districts where there are portable bungalows and movable equipment that is moved from place to place, there should be coverage for materials in transit, which can easily be written into the policy. Warehouse stocks should be covered by a variable risk coupled with a con-

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DEVELOPING MECHANICAL ABILITY—LEARNING PRINCIPLES INVOLVED IN WORKING WITH METALS IN THE WEEHAWKEN, N. J., HIGH SCHOOL

Is Skipping Grades a Satisfactory Method of Acceleration?

Jesse E. Adams and C. O. Ross, Professors of Education, University of Kentucky

Confusion Regarding the Problem of Individual Differences

That the educational significance of individual differences is one of the most important educational discoveries of the present century there is general agreement. Unfortunately, at this point agreement ceases. Wide as are the individual differences in achievement existing among pupils, they are hardly wider than the differences in opinion existing among the educators as to what is to be done about the problem. Furthermore, like Mark Twain's observation on the weather, there is a lot of *talk* about it, but nobody *does* anything about it. At any rate, the talking far exceeds the doing.

One of the suggestions often heard is that of homogeneous grouping. A dozen years ago there was rather general agreement that this afforded the solution needed. However, beginning with Bagley's assault in Chicago in 1922, animated discussions have followed at each meeting of the Department of Superintendence of the National Education Association; one of the most lively being at the recent meeting in Washington. Today, educators are apparently much less sure of their ground than they have been in a decade.[1]

Moreover, whatever the merits of homogeneous groupings, it is essentially a method for the larger schools. The smaller schools must seek to meet the problem in other ways. What they need is some method of taking care of the exceptional pupil as an individual.

One of the most obvious methods is that of permitting accelerated pupils to skip grades. This, if sound educationally, has many things to commend it; it requires no special equipment, no extra or especially trained teachers, and is equally applicable to small schools and large. The critical question then is not, "Is it practical administratively?", but, "Is it sound educationally?"

Unfortunately, up to the present time but little experimental evidence has been assembled regarding the problem. Of the limited studies available, that of Martin[2] involving 100 pupils in Long Beach, California, is among the best. In substance, two of Martin's conclusions are as follows:

1. Very superior pupils in intelligence can skip half grades without a noticeable lowering of the subsequent school records, while average pupils, as a rule, will not succeed.

2. There is a greater lowering of the pupils' subsequent records as a result of skipping the lower grades than there is in skipping grades five and six.

It should be noted, however, that Martin's study was a one-group experiment. Variations in achievement from grade to grade are sure to occur for many pupils whether they skip grades or not. One can never be sure, therefore, whether the superior record of Johnny in 4B is due to his having skipped 3A, the added stimulation of new curriculum content, the personality of a new teacher, or merely due to the fact that he has a teacher with different standards of marking. The uncertainty existing is not unlike that of the old woman who expressed her doubts regarding the merits of the patent medicine she has been taking, in these words: "You see, I never can tell how bad I'd a been feelin' if I hadn't a took it!"

A Controlled Experiment in Skipping

In order to provide a definite control, the writers conducted an experiment covering two years, in which students of like ability and achievement were paired against each other. One member of each pair skipped a half grade or whole grade, while the other member of the pair was retained in the normal grade.

The solution of the groups was as follows: At the beginning of school, in the fall of 1928, teachers in grades 3 to 7, inclusive, were asked to make a list of the pupils whom they regarded as the highest fourth of their classes during the preceding year. The lists so prepared consisted of about 400 pupils from an enrollment of 1,600 pupils, representing four schools in three different cities. Upon the basis of scores on the National Intelligence Test and the Stanford Achievement Test as many pairs of like ability and achievement were formed as possible. In most cases boys were paired against boys, and girls against girls. These pairs were then checked with the judgment of the teachers, and only pairs whose test scores were confirmed by the teachers' judgment were retained. A list of 87 pairs remained. Of these, 60 remained intact for the first year of the experiment, but the number was reduced to 29 pairs at the end of the second year.

The procedure employed was a simple one. The skipper was given to understand that he was on trial in the new grade to which he was promoted, while his partner, retained in the normal grade, was told that he would be skipped the next year if he made a good record in the grade he was in. The purpose of this was to make each pupil feel that he was having a square deal and that the outcome was entirely up to him. To further insure that no injustice was done, both members of all pairs were tested every six weeks during the first year with well-known standard tests. Teachers were given no special instruction other than the caution not to expect too sudden an adjustment to the reasonable amount of coaching if necessary.

A general question for which an answer has been sought by this study, "How does the progress made by superior pupils who skip over a half grade or whole grade compare with that of pupils of like ability who are retained in their normal grade?" For convenience this general question has been broken into four specific questions.

1. Are the effects of skipping, whether favorable or unfavorable, equally marked in all grades?

2. Are the effects of skipping, whether favorable or unfavorable, equally marked in all subjects?

3. Are the effects of skipping immediate or delayed; that is, are they greater the first year or in later years?

4. To what extent are the effects of skipping dependent upon local conditions?

Effects of Skipping by Grades

During the first year of the experiment, 35 of the 60 skippers made greater gains in educational age than their partners, while 3 others made equal gains. Taking all grades together, then, the chances favoring the skipper are abou 3 to 2. The most favorable odds were in gra 7 where 4 out of 5 skippers excelled, while t least favorable odds were in grade 6 whe only 2 out of 6 of the skippers excelled and on other equalled his partner.

In grades 3, 4, and 5 the odds favoring t skipper were approximately 2 to 1.

The amount of the difference is also impo tant. On the average, the skipper excelled h partner by 1.3 months in educational age. Th amount was greatest in the second grade where it was 11.6 months, but in the sixth grade the skipper actually fell behind his partners by 2.5 months. In grades 3, 4, and 5 the average gains favoring the skipper were 1.4, .3, and .9, respectively. Both in terms of number of pupils and in amounts of gains the most favorable grade for skipping appeared to be the seventh while the least favorable grade appeared to be the sixth. This appeared to be true, whether the comparisons were made on the basis of educational age, or on the basis of reading age and arithmetic age considered separately.

Effects of Skipping by Subjects

Since educational age is a measure involving the average of all subjects together, it is worth while to examine the effects separately upon the two principal subjects, reading and arithmetic.

In reading age, the gain of the skipper during the first year excelled that of his partner in 27 cases, equaled it in 7 cases, and fell behind it in 26 cases. The most favorable record was made in the fifth grade where 12 skippers excelled their partners and only 5 fell behind, whereas in the sixth grade, 4 out of 8 fell behind. In grades 3, 4, and 7, the chances were about even that the gains would be at least as great for the skipper as for his partner. The situation for arithmetic was slightly more favorable to the skipper. In 30 cases out of 60 the skipper excelled his partner and equaled his partner's record in 4 other cases. The only grade where the retained pupils excelled the arithmetic gains of the skipper was in the sixth. In this grade 5 of the retained out of 8 excelled the skipper.

In terms of amount of gains, the skippers, on the average, excelled their partners in reading age by 2.8 months, and in arithmetic age by 2.7 months as against an average superiority of all subjects combined of 1.3 months. However, this gain was mainly in the seventh grade where the 5 skippers excelled their partners by 11.0 months in reading and 23.6 months in arithmetic. When measured in terms of the numbers of pupils involved, gains in arithmetic slightly excelled those in reading, but when measured in terms of the amount of gain they were just about equal, although greater in both subjects than in the average for all subjects combined.

Effects of Skipping by Years

Are the effects of skipping immediate or delayed? The data of this experiment provided two ways of answering this question. One way was to prepare the gains made by the skippers during the year when they skipped with those which they made the following year. The second way was to compare the gains made by the pupils who skipped during the second year of the experiment with the gains made the second year by the pupils who skipped the year preceding.

Of the 29 pairs of pupils who continued in the same schools until the end of the second

[1]Good recent critical discussions of the problem include the following: Those favoring the scheme are: Odell, C. W. "Provisions for Mentally Atypical Pupils," *University of Illinois Bulletin*, Vol. 29, No. 6; Bureau of Educational Research Bulletin No. 59, University of Illinois, Urbana, Ill., 1931, pp. 59–65; and Sumonds, P. M., "Homogeneous Grouping," *Teachers College Record*, March, 1931, pp. 506–517. Those opposing the idea are: McGaughy, J. R., "Homogeneous Grouping of Pupils," *Childhood Education*, Vol. 6, pp. 291–296, March, 1930; and Keliher, A. V., "A Critical Study of Homogeneous Grouping," *Teachers College, Columbia University, Contributions to Education, No. 452*, New York: Bureau of Publications, Teachers College, Columbia University, 1931, p. 165.

[2]Martin, A. H., "A Study of the Subsequent Standing of Specially Promoted Pupils," *The Twenty-third Year Book of the National Society for the Study of Education*, Part I, pp. 333–353.

year of the experiment, 17 made greater gains in educational age the year they skipped than the following year and another pupil made the same gain. In the terms of amount of educational age the gains made the first year excelled those made the second year by approximately one third. All pupils who skipped grades 3 and 7 did better the first year, while only about one third of those skipping grades 4 and 6 did better the first year. In only grade 4, however, did the evidence point strongly to the conclusion that the effect of skipping that grade was delayed, even here, however, the gains were greater the first year than were those of their partners. Only 3 of the 8 pupils in grade 4 made greater gains in educational age and arithmetic age the year they were skipped than the following year, while in reading age only one of the eight did better the first year.

It will be recalled that the pupils who are paired with pupils skipped during the first year of the experiment were themselves permitted to skip during the second year of the experiment. Of the 29 original skippers who skipped the first year, only nine excelled their partners the second year of the experiment, the year when their partners were allowed to skip. In terms of gains in educational age the 29 original skippers who excelled their partners the first year by 32 per cent, actually fell behind these same partners the second year by 22 per cent. Regardless of which member of the pair was skipped, the data suggest that the skipper had a good chance to excel his partner that year. The effect of skipping was therefore immediate, being especially marked during the year when the skipping occurred.

Effects of Skipping on Local Conditions

Since the experiment involved the pupils in four schools, two in one city and the other two in two different cities, the writers were interested in examining the data to determine to what extent they were consistent from school to school. When all grades were considered together there was considerable agreement in reading gains in the four schools, but not such close agreement in arithmetic age or in educational age. When the grades were considered individually there appeared no observable consistency in the schools, with the exception of the fifth-grade reading where all four schools showed gains favoring the skipper. Whether such inconsistency was due to the smallness of the numbers, when grades and schools were considered separately, or due to such variables as the personalities of the teachers and the policies of the schools, this study provided no answer.

To Summarize

In spite of the general agreement as to the educational significance of individual differences, there are wide differences of opinion as to what is to be done about the problem. As a solution, at least in part, skipping grades has been suggested and widely practiced, although with little or no experimental evidence to support it.

Upon the basis of group intelligence and general achievement tests, the writers formed 87 pairs of pupils in like ability of achievement in grades 3 to 7. One member of the pair was skipped the first year of the experiment and the other member the second year. The results will be briefly summarized under four headings.

1. Are the effects of skipping equally marked in all grades? *Answer:* Whether measured in terms of the numbers of individuals excelling, or in terms of the amount of gains made, the most favorable grade for skipping appears to be the seventh, and the least favorable, the sixth. In the seventh grade, four out of five skippers excelled their partners by 11.6 months in educational age, whereas in the sixth grade only two out of six skippers excelled. The group, as a whole, fell behind their partners an average of 2.5 months in educational age. In grades 2, 4, and 5 the odds favoring the skipper were about 2 to 1.

2. Are the effects of skipping equally marked in all subjects? *Answer:* When measured in terms of *numbers* of pupils excelling their partners, the gains in arithmetic slightly excelled those in reading, whereas they were approximately equal in *amount,* although greater in both subjects than in educational age, which is the average of all subjects.

3. Are the effects of skipping immediate or delayed? *Answer:* The effects are immediate. Of the 29 pairs of pupils who remained intact for two years, 17 made greater gains in educational age the year they skipped than they did the following year, the average superiority being one third. Furthermore, when conditions were reversed the second year, the pupils who had been allowed to skip excelled the pupils who had skipped the preceding year by 22 per cent, although they had fallen behind the same pupils the preceding year by 32 per cent.

4. To what extent are the effects of skipping dependent upon local conditions? *Answer:* The data did not permit a definite answer to this question. While there is little observable consistency among the four schools, when compared with each other it was not clear whether it was due to such variables as the personalities of teachers, or the policies of schools or merely the smallness of the numbers involved.

The results of this two-year experiment, in the judgment of the authors, warrant the conclusion that under reasonably favorable conditions skipping is a satisfactory method of accelerating pupils of superior ability.

Does a Supervision and Testing Program Pay?

I. J. Deck, Superintendent of Schools, Crockett, Texas

After the writer had been elected superintendent of schools at Crockett, Texas, in the spring of 1929, he received the impression from various sources that the Crockett schools were superior in achievement to most schools of the state. Observations of teacher-pupil reactions in September, however, raised the question whether the schools were not below the prevalent Texas standard. At the end of the first month, all the teachers were requested to provide the superintendent with grade sheets for study. After a careful review of the pupils' grades, it seemed that the teachers could not well justify most of the marks placed on the grade sheets. At the end of the second month, it was clear that some teachers were issuing higher grades to pupils than they deserved, and to others probably lower than they merited. Some grade sheets recorded A's for 90 per cent of the children in some subjects.

After a review of the October records, the superintendent asked the board of education to furnish testing material for a complete check-up of the grades and high school. It was recommended that this survey be made (1) to determine the educational achievement of the schools; (2) to compare the local achievement with standard norms; (3) to enable comparisons with other school systems of Texas; and (4) to determine whether any reorganization of classes and the reclassification of pupils would be necessary.

Reasons for Using the Test

The board consented to the check-up because some members had, for some time, sensed that a few teachers were giving grades to please the pupils, or to hold the good will of certain parents. There were other good reasons for the survey: Several elderly married women had been teaching for years in the local schools, and resented supervision and changes which seemed to be necessary in organization and administration. Since they had taught so long, no one had presumed to supervise them or to change the old order which they had established. Observation of their teaching did not seem to warrant their good opinion of themselves. In fact, the superintendent became convinced that the whole school system needed a thorough overhauling. This he knew, would meet with opposition on the part of some of the faculty, probably of a few school-board members, and a part of the public. Unless sufficient facts indicating the existing situation could be marshaled, it would be impossible to shake the exalted opinion of the high achievements of the schools.

The Stanford Achievement Tests were given during the first week of November, in all grades from the second to the seventh inclusive. The tests were conducted by the superintendent, and the teachers scored and tabulated the results. For purposes of judgment the results were compared with the norms recorded nationally for the Stanford tests. To bring out more definitely the actual situation, the scores were also compared with the scores made in the Texas City schools. This community is in the same general population class of Crockett, and had been carefully surveyed in 1928, so that accurate figures on the Stanford norms were available.

The results of this first test in Crockett, which will be designated in the article below as low third, low fourth, etc., show that the local schools as a whole were not up to the national norms and were somewhat below the achievement of X City.

The test in arithmetic revealed that the pupils were very inaccurate in the four fundamental operations. The November tests in language, history, and literature were similarly disappointing.

How the Test Results Were Used

The results of the tests were not merely made known to the teachers and the board of education, but were used during the entire year as the basis for emphasizing necessary improvements in teaching methods. The teacher soon realized the fact that achievement tests measure a teacher's ability to teach and to "get over" her subject to her pupils, quite as much as they measure the pupil's ability to learn.

As promptly as compilations and graphs could be worked out, they were made available to the teachers. Weak places in instruction and achievement were pointed out, and causes of failures in each subject were studied. At the biweekly faculty meetings, the teachers were thoroughly familiarized with all problems which confronted them for the remainder of the year. In some subjects as arithmetic, drill work was requested at points where the children were shown to be weak.

The achievement record of each pupil was used for reclassification and for homogeneous grouping. In each class, fast and slow divisions were arranged so that the teacher could adjust her work.

In order to give each teacher a chance to do the best possible work, the grades above the third were departmentalized, and the teachers were assigned a single subject to teach. In this connection, the college record of each teacher was studied to determine what subject she was best qualified to teach and could teach most successfully. Thus, a teacher who was particularly strong in English taught English classes; one who preferred arithmetic taught arithmetic classes.

In the individual visitation of classes, and in the faculty meetings, during the year, the teachers were aided in (*a*) choosing the subject matter to be taught, (*b*) in plan writing, (*c*) in teaching pupils how to study, and (*d*) in selecting and applying modern methods and techniques.

All meetings and other contacts centered entirely around the problem of aiding teachers to teach better the subjects which they had been assigned to teach.

In some way the rumor was circulated among the teachers that anyone who failed to teach her subject satisfactorily during the year would lose her position, if a test to be given in May proved unsatisfactory. This unfounded statement which did not come to the superintendent's knowledge until after the annual election of officers, acted as a spur upon each to put forth her best efforts.

Using Meetings and Professional Literature

During the entire year, the superintendent not only made the greatest possible use of supervisory visits, but also conferred with individual teachers upon every possible occasion. The most important contacts with the teachers as a whole were the biweekly faculty meetings which were held throughout the entire year. At these meetings, teachers were instructed in (1) plan writing, (2) the daily preparation of lessons, (3) the importance and technique of making lesson assignments, (4) the art of questioning, and (5) the importance of teaching children how to work and study.

A third activity to improve the quality of instruction was the special study of literature dealing with methods of teaching the elementary-school subjects. During the second semester, papers based upon the study of current literature were prepared by various teachers and were made an important part of the biweekly staff meeting. In assigning readings on the literature of method the superintendent took into account the fact that many of the teachers had been in the teaching field for years and had not gone to college or summer school, or kept up with modern educational practices and principles. It seemed that an extensive review of modern methods would at least give the entire group an overview of recent developments and improvements and a personal view of themselves and their antiquated notions and methods. The readings did show quite a few that were out of step with modern educational practices and that they should go back to school, or leave the school system. Some of the old teachers as a fact, did not apply in the following year. A few asked for a leave of absence, and a few others were required to attend college each summer until they could obtain a degree.

The Spring Test Results

The entire battery of tests was used again in May, to determine the effect of the year's work. The May tests revealed some very interesting scores. Reading had been raised from several points below standard to several points above standard in all grades. The results in the sixth grade will illustrate what happened: The standard score of the Stanford test in reading for L-6 is 151. In the Crockett schools, the November score was 137, but in May, the average score in Crockett was 168. The standard norm for this grade and subject is 162, the Crockett schools therefore made a gain of 31 points in reading for the year.

A study of the scores in arithmetic revealed even greater gains. The standard norm for Stanford L-5 on November 1 is 140. The Crockett score for November 1 was 140. At the end of the year the average score for H-5 was 188. A study of the X City school results revealed a score of 157 for H-5. The Stanford standard norm for H-5 is 159, a total gain of 48 was made in Crockett from the time the first test was made until the second was given.

Other grades and subjects made similar gains in achievement. The Stanford standard score for arithmetic in L-7 is 196. The X City school system showed an average of 191 for L-7, and 210 for H-7. In Crockett, the average score for L-7 was 179, and H-7 220. An analysis of the test results showed that the pupils in this grade were weak on November 1 in the four fundamental operations and in reasoning. During the year, considerable drill and supplementary work were given, and a standard workbook was used. The results speak for themselves.

The scores for language, history, and literature revealed that the pupils in all the grades made surprising gains from November to May.

At the close of the school year 1929–30, full advantage was taken of the improvement in work. Many pupils were given double promotions. Several were promoted from the sixth to the eighth grade. The per cent of failures was reduced from 15 per cent to 5 per cent on an average for the whole school.

Some Effects of the Testing

During the past three years, the program of testing has been continued. With each reorganization of classes, the pupils have been reclassified and in each class the children have been grouped. The departmentalization has been fully carried out, and the work in the faculty meetings has been carried on actively.

The results of the program have been satisfactory when it is remembered that failures and repeaters have decreased more than 50 per cent, that at the end of the year 1932 the total failures amounted to only 5 per cent in all subjects and grades. Three years ago, the failures ran as high as 15 per cent in some subjects or grades.

Perhaps the general effect of the program of supervision and testing will be understood from Table I, which is a condensed record of the total average scores for grades two to seven inclusive:

TABLE I

Grade	*1929 Total Score*	*1930 Total Score*	*1931 Total Score*	*1932 Total Score*	*Grade of Achievement 1929*	*Grade of Achievement 1930*	*Grade of Achievement 1931*	*Grade of Achievement 1932*
2nd	10	12	32	45	2.3	2.9	3.1	3.8
3rd	19	30	55	55	3.4	4.5	4.4	4.4
4th	32	44	65	67	4.4	5.4	5.1	5.4
5th	42	49	78	85	5.2	6.0	6.4	7.4
6th	59	62	88	90	5.9	7.2	7.8	8.1
7th	64	69	94	96	7.0	8.1	8.7	9.0

The foregoing figures show that pupils at the end of the 1932 testing program had raised their achievement norms from one to six months above the three previous consecutive years, and that all grades had been raised from several months to a year above the standard for the grade. The table should read as follows: Second grade at the end of the year 1929, when the second test was given, made a total score of 10 in all subjects for the grade, or a grade equivalent of 2 years and 8 months; at the close of the year 1930, the second grade's total average score was 12, with a grade equivalent of 2 years and 9 months; and at the end of 1931, the total average score was 32, with a grade equivalent of 3 years and 1 month, and at the end of 1932, the total average score was 45, with a grade equivalent of 3.8.

Gains Continue Steadily

The score of 32 and 45 is much larger than the previous average scores, due to the difference in New Stanford Achievement Test and the old tests, but the grade equivalents are not changed and reveal a gain of ten months over the previous years.

Other grades should be read in the same way as the second has been interpreted. The table reveals that the third and fourth grades for 1931 and 1932 failed to make a steady gain for these years as other grades show. These two grades for 1931 do not measure as high as the same grades did the previous year, but show a good gain for 1932. All other grades reveal a steady gain in achievement of a few months from year to year for the four consecutive years testing program.

A review of all achievement scores which were too extensive to be included in this article, reveal that the average scores of all subjects in all grades have been raised during the past four years after the first tests were given, from below standard in most subjects and grades to several points above standard in all grades. In fact, the whole school has been raised 1½ years since the first test was given in 1929.

If a school system can show that it has gradually raised its standard of achievement from 3 to 16 months during a period of three years, from below standard, to a year and six months above standard in nearly all subjects and grades, after the first tests were given and supervision practiced; if it can show that failures have been decreased 50 per cent or more, and that double promotions have saved the district several thousand dollars; it is fairly good evidence that supervision and an annual achievement testing program is worth while and pays.

MODERN SCHOOL ADMINISTRATION

No subject is more in the minds of those who are concerned with the interests of the public schools than that of their support. There are many angles to this large and increasingly difficult problem and under present economic conditions the situation is in danger of becoming acute. The ability to meet an economic emergency, such as now exists, without panic and without taking a loss in the schools, deserves to be regarded as the highest type of good administration.—J. M. McConnell, State Commissioner of Education, Minnesota.

School Board Heads Who Make History in American Education

The contribution made by leaders in the field of school administration was never more intense and at the same time more gratifying than it is at the present time. Those who head the board of education, though, are usually identified in an intimate way with the economic, civic, and social activities of their respective communities.

Thus, they are also exposed to the influences which at times batter their opposition to the cause of popular education in the guise of economy and retrenchments which are retrogressive in spirit and harmful in fact. The country must, in the stress and storm of a disturbed condition, look to these leaders for that calm steadfastness and guidance so essential to the school administrative service.

The biographical sketches here presented were in every instance prepared by writers who were in close contact with their subjects. They have lifted into view the true merits of the persons here discussed and thus provided a series of character studies well worthy the attention of the American school public.

RAYMOND GOULD

President, Board of Education, Lakeview Consolidated School District, Battle Creek, Michigan

Mr. Raymond Gould became a member of the Lakeview board of education in 1927 and has been president of the board for the past four years. As a member of the board, he has taken a progressive view and interpreted the educational program and policies of the board

RAYMOND GOULD
President, Board of Education,
Lakeview Consolidated School District,
Battle Creek, Michigan

only in terms of service to the children. He has had a part in two quite extensive building programs, the enrollment of the school having more than doubled since he became a member of the board.

In the business world, Mr. Gould is a manufacturer of musical instruments, doing a wholesale business in violins and strings. He is a member of the Chamber of Commerce of Battle Creek and of the Kiwanis Club of the same city.

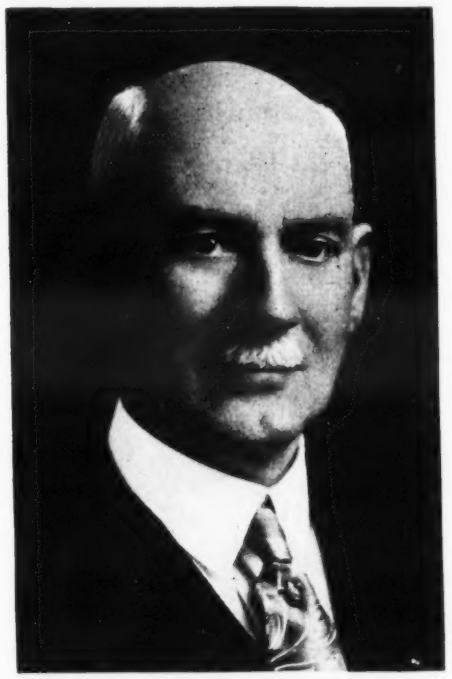
He is a native of Battle Creek, Michigan. Ten years ago Mr. Gould moved with his family to the suburban section known as Lakeview, a residential development outside the city limits which now has a population well over five thousand people. He is active in all civic and community life, particularly in the field of music, and the cause of education.

DR. SAMUEL E. FLETCHER

Chairman of the School Committee, Chicopee, Massachusetts

Dr. Fletcher is completing his tenth year as a member of the school committee and his third consecutive term as chairman by unanimous choice of the committee. As chairman he has made a valuable contribution from his experience in civic and municipal affairs. During his administration important progress has been made in the building of new schools, in the improvement of buildings and grounds, and in the selection of sites for future schools. He has encouraged an extensive program of evening schools for adults in academic and trade education which has been administered with utmost economy.

As mayor for two terms, in 1910 and 1911, as chairman of the library trustees in 1915, and as president of the Chamber of Commerce in 1913, he has rendered valuable civic service. He contributed valuable professional services to the underprivileged child committee. He is now serving as chairman of the trustees of the school employees' relief fund, organized to furnish aid to needy school children and their families.



DR. SAMUEL E. FLETCHER
Chairman of the School Committee,
Chicopee, Massachusetts

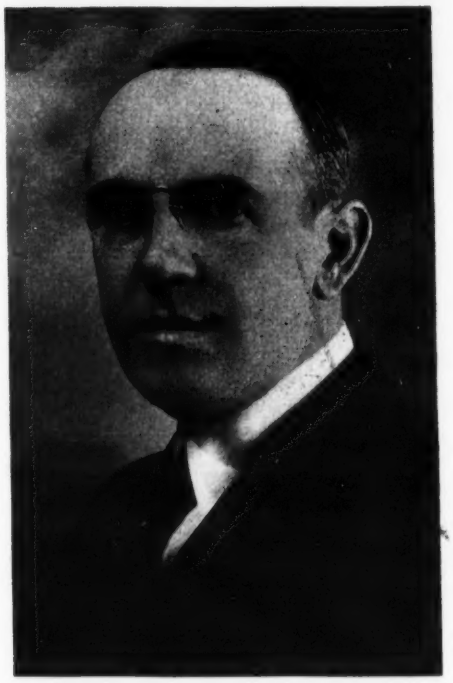
A native of Milford, Massachusetts, a graduate of the public schools, and of Boston University Medical School, Dr. Fletcher has been a practicing physician in Chicopee since 1892, and medical examiner in Hampden county since 1918. He is chairman of the staff at the Wesson Memorial Hospital. He is also vice-chairman of the executive committee of Wesson Maternity Hospital, president of Chicopee Physicians' Association, and a member of The American Institute of Homœopathy, The Massachusetts Homœopathic Medical Society, and The Springfield Academy of Medicine.

JOHN J. QUINN

President, Board of Education, Perth Amboy, New Jersey

Despite the country-wide demand for curtailment of public expenditures, President John J. Quinn, of the Perth Amboy board of education, has consistently and successfully championed the idea that drastic financial curtailment in the schools represents not sound economy, but that in the final analysis it represents inefficiency and educational waste. He says, "It is not economy to balance the budget by writing off our greatest asset, adequate education."

He is serving his sixth year as president. Perth Amboy is an industrial city of 45,000 population, situated in the New York-New Jersey metropolitan area. Mr. Quinn is actively



JOHN J. QUINN
President, Board of Education,
Perth Amboy, New Jersey

interested in the present and future welfare of his native city and takes a just pride in her past history which is rich in important accomplishment since pre-Revolutionary days when Perth Amboy was the capital of the Colony of East Jersey.

During Mr. Quinn's term of office as president the board of education has added a gymnasium to the Perth Amboy High School that is one of the finest in New Jersey. Shops have also been added, and a cafeteria which is considered one of the best-equipped in the east.

Mr. Quinn is a banker, executive vice-president of the Raritan Trust Company, and a recognized leader in local business and civic activities. It can be said of John Quinn as of the "Golden Rule Mayor" of Cleveland, that, "He never spoke ill of his city."

RICHARD T. GREENE

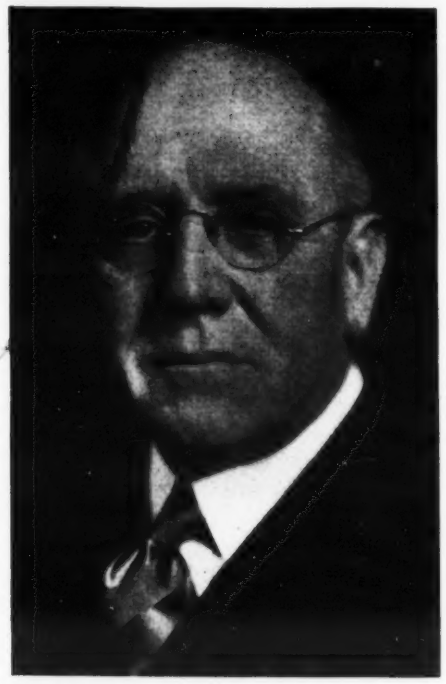
President, Board of Education, Montclair, New Jersey

In his capacity as school administrator, Mr. Greene believes that good schools are the chief contributary to a community's material prosperity, and therefore, that the highest possible standards should be maintained. Under his leadership the board has acted with a maximum degree of unanimity in all important policies. The school plant and program have been developed in keeping with the growth of the community and the need for additional services. The services which are now being rendered, and the adequacy of the physical plant are due to careful planning in which the anticipation of future requirements had full consideration.

Among his beliefs he also holds that decisions should be made on consideration of all available facts and by the use of brains, not

emotions; that laws should forbid and punish axiomatic crimes but not attempt to create or control matters purely moral; that agencies of individual reform should precede agencies of trial and punishment; that compulsory schooling does not insure education; that not every child should be encouraged to attend college; that secret fraternities, openly avowed and rightly controlled, are valuable adjuncts to high schools; that punctilious observance of obligations in small as well as large affairs is an index of character; that the golden rule should not be suspended.

In the matter of school policies, Mr. Greene believes that they should be adapted to local conditions. A board of education should operate as does a board of directors of an important corporation. He holds that every member of the board should consider every important question, a principle which has led to the abandonment of the standing committee system,



RICHARD T. GREENE
President, Board of Education,
Montclair, New Jersey

and that the superintendent of schools is the executive officer of the board and responsible to the board for the carrying out of its general policies and specific directions. He has been a member of the board since 1924 and its president since 1925.

Richard T. Greene is the senior member of the law firm of Greene and Hurd of New York City. He was born at Port Henry, Essex county, New York, and is of tenth-generation descent from his American progenitor John Greene, surgeon, Gillingham, Berks, England, who came to this country in 1630 and was founder of the family known as the Warwick, Rhode Island, Greenes. Educated in the public schools and Free Academy of Rochester, New York; Rutgers College, B.S. degree in 1889; and Albany Law School, LL.B. degree 1891, from which institution he was graduated with highest honors. He is a member of the American, New York City, and New York County Bar Associations, and New York Law Institute.

Mr. Greene has retained life-long interest in Rutgers, serving as president of the '89 alumni; member of the College Alumni Council; president, one term, of the General Association of Alumni; president, Rutgers Chapter D. K. E. Alumni; and twice president of the national organization of Delta Kappa Epsilon. He is identified with numerous civic and social organizations. He enjoys chess, music, literature, stereoscopics, golf, the society of young people, and lively encounters in good causes. In the summertime he spends as much time as possible at West Hyannisport, Cape Cod, where he has a summer home.

GEORGE A. ISELEY
President, Board of Education, Raleigh, North Carolina

In his capacity as mayor, Mr. Iseley became, a year ago, the *ex officio* chairman of the board of education.

GEORGE A. ISELEY
President, Board of Education,
Raleigh, North Carolina

Although he has been officially connected with the public schools of Raleigh for only one year, he has manifested a keen interest in the educational opportunities offered by the city schools, and has labored faithfully for their welfare. He believes in employing the best teachers and maintaining the highest salary schedule possible, in keeping with the ability of the community to pay.

Mr. Iseley is a leader in civic activities. He is a member of the American Legion, Chamber of Commerce, and Chairman of the County Board of Health, which also administers the public-health program in the city.

A STUDY OF CLASS SIZE AND ITS EFFECT UPON PUPIL ACHIEVEMENT

Mr. S. N. Ewan, Jr., principal of the high school at Lansdowne, Pa., has issued a report of a study which was begun to determine the effect of class size upon pupil achievement. For comparative purposes, the progress of pupils in classes under 15 in number was measured against that of pupils in classes over 30.

The method may best be determined by showing the procedure in one particular subject. Two classes in English satisfying the size requirements were selected. Both these classes were under the same instructor, receiving the same kind and amount of instruction. After a definite period of instruction, such as a semester, a standardized test was given each class section. Pupils in the small class were paired with pupils of equal I.Q. in the large class. After pairing, the average score of the pupils selected from the small class was compared to that of the pupils matched with them in the large class. The chief factor accounting for any difference in progress of the two groups would appear to be that of class size.

In the belief that other factors might possibly affect the validity of the study, a thorough background analysis was made of each pupil under observation. In all 18 such paired classes have been studied.

These classes were in English, Latin, mathematics, history, science, and typewriting, and from the background studies a number of interesting facts were obtained.

It was noted that the I.Q. may not be trusted as a guide to results. One pupil with an I.Q. of 130 may be doing a low grade of work and at the same time is a member of a small class. Another pupil with the next to the lowest I.Q is doing excellent work and is in a large class.

In 12 of 18 paired cases studied in a sophomore history class, the grades obtained corresponded with the averages received for history in the junior high school.

The election of a subject appeared to be a definite indication of results. Of 18 pupils in one class, 7 elected the subject, and the remainder were required to take it. Of the 7, only 2 are doing good work. Of the 11 others, 3 are doing excellent work. Pupils with no previous experience in a similar subject do as well as experienced pupils. Pupils carrying extracurricular activities do as well and better than those not so engaged. Equal results were obtained in classes meeting the first and last periods of the day.

The study was conducted over a period of a year and a half and will be continued until it becomes a three-year study. The results appear to indicate that pupils in large classes achieve as well as those in a small class. Larger classes will materially reduce the cost of instruction.

RATING TEACHERS AS AN INSTRUMENT IN SUPERVISION
Frank W. Ballou, Superintendent of Schools, Washington, D. C.

Teachers and supervisory officers usually look on rating as a disagreeable task. However, in a school system which is efficiently organized and administered, some means of evaluating the services of teachers is required.

In general, the rating of teachers is justified (1) to protect teachers on tenure against possible unworthy opposition by their superior officer; (2) to make possible promotion on merit, whether under the single-salary schedule, or by a special salary established for superior teachers; (3) to make possible the promotion of the most outstanding teachers to higher teaching and administrative positions in the school service; and (4) to promote the general improvement of classroom supervision through the constructive help of the supervisor.

While lay control continues in the establishment of educational policies, the professional opinion of educators largely determines courses of study, textbooks to be used, methods of instruction, and other important phases of the educational program. The educational program of the school centers in each individual classroom. Without first-class teachers, no school system can be efficient.

It is the primary function of supervision to promote efficient classroom instruction. It requires systematic observation of the work of the classroom, the formulation of definite plans for improvement, and the observation by the supervisor of the results achieved by the teacher in her efforts toward improvement.

The rating of the teacher should take place at the end of the school year. It represents the professional judgment of the supervisor on the value of the services performed by the teacher, and it establishes a record which is both in the interests of the teacher and of the supervisor.

The technique of supervision has not been as carefully worked out as the technique of classroom teaching and the procedure, therefore, varies greatly. With the accumulation of detailed information in the research department concerning individual children and their needs, both teacher and supervisor are able to proceed more definitely on the basis of the facts obtained. As the scientific procedure is more fully developed in the educational practice, it will eventually be possible to analyze classroom procedure more definitely and to formulate a more accurate and valuable professional estimate of the teaching product in the form of a rating.

Basic Considerations in Purchasing the Equipment for a High School

G. E. Collins, Superintendent of Schools, Portageville, Missouri

The problem of equipping a school building, large or small, is not one to be passed over lightly. It is deserving of careful attention just as is the problem of the building itself, and the two problems are almost equally complex. The cost of equipment may be only one tenth that of the building, but this fraction does not indicate that the building construction should receive ten times the attention and care. On the actual problem of equipping the school and how this is to be accomplished, there is little or no literature available for the board of education who must purchase and prepare the new building for the opening of school in the fall. Therefore, I consider it my duty to attempt to set down the several phases of the problem with their ramifications in such a manner that the board of education may be guided by something more tangible that the fluent selling talk of a master salesman of school furniture.

The following article contains the essential portions of a statement prepared by the author for his board of education and formed the basis upon which the board developed its procedure for equipping a very successful new high-school building. — Editor.

Specifications for School Equipment

The specifications for school equipment should be written only in the light of the educational program to be followed in the school equipped. The superintendent, in consultation with the principal, the department heads, and the teachers, must decide whether the instruction is to be of the more traditional type, such as classroom recitations, the laboratory type, or some other type. This will have an important bearing upon such questions as fixed or movable classroom seating, the type of science tables, and the amount of other supplementary equipment necessary. After the type of furnishing for each room and the size of the group to be accommodated have been determined, it is necessary to check these tentative plans with the plans for the building. There are just three factors to be considered in making the specifications for the equipment after the educational program to be carried on in the new building had once been determined. The size of the classroom ceases to be a factor after the building plan has been approved by the board. The size of classes is often determined by the state department of education. Thus, two of the three factors have been definitely settled. The third factor, the type of furniture, is determined by the educational program.

Types of Specifications

Equipment specifications may be classified roughly under two heads: the bidders' specifications for the jobbers of schoolhouse equipment, and the manufacturers' specifications. The first type gives the catalog number of a recognized manufacturer with any details such as special size, special finish, or extra equipment. The second type goes into the details of construction and mentions no particular make. The same article may be specified in either manner as shown in the following two examples:

A. Bidders' Type

500 Pupil Desks. Blank Seating Company, No. 114 or equal. Adjustable type fixed to the floor. Swivel seat. Desk equipped with approval inkwell and steel guard for the same. The size of the top 16 by 24 in. approximately. Finish on top, school furniture brown.

B. Manufacturers' Type

500 Pupil Desks. Adjustable type with pedestal, swivel-type seat, fixed to the floor. *Book Box:* Size of top 16 by 24 in. Depth 5 by 5½ in. front and rear outside measurements. Pencil strip 3 in. in width. Top to be selected clear-grain maple, sides of box to be of pressed steel, and the bottom of selected hard wood ½ in. thick. There shall be a lifting lid with friction hinges of steel 1½ by 4 in., attached to a pencil strip and lid by three wood screws in each. Rawhide is to be used to control the friction. *Seat Part:* The height should be 18 in. from the floor at the highest adjustment. The seat and rail to be of clear-grain maple. *Legs of Desk* and *Pedestal of Seat* to be of steel with feet on legs. *Inkwells:* To be of approved type. *Finish:* All wood parts to be finished in genuine DuPont Duco in the standard school furniture brown. Metal parts to be of black enamel, baked on.

With either of the two types of specifications the same article would be received. The bidders or jobbers of school-supply houses prefer the first. After the specification of the school furniture has been made and passed upon by the board of education using either the bidder's form or the manufacturer's form, then comes the matter of receiving bidders on the same.

General Conditions of Bidders

Before equipment specifications are sent out to prospective bidders, the general condition of bidding must be set up and copies for each bidder prepared. This set of general conditions should include all conditions that are common to all bids. It should include the following:

a) Date of receiving bids.
b) Date for opening bids.
c) Date for the completion of the contract.
d) The form in which the bids will be received.
e) The surety bond or surety required.

Two types of surety are commonly required, one giving evidence of good faith in bidding, and the other protecting the board of education in case of failure on the part of the successful bidder to complete the contract. The first type of surety is required of all bidders and the second of the party to whom the contract is awarded. The surety may be a bid bond, a certified check, or cash. The surety required of all bidders is to be returned as soon as the bids are opened and a contract awarded.

Distribution of Forms

After the material of the general conditions and the specifications is assembled, the question of distribution to the bidders arises. The form in which the copies are to be sent out depends in part upon the probable number of bidders. The number of bidders, in turn, depends upon the policy of the board of education. Some boards desire to limit the number of bidders, and to make their selection upon the basis of known quality of goods purchased in the past from certain firms, or of the previous performance of the prospective bidder. Some boards freely distribute copies of the specifications to all who request them.

When the board distributes the specification, it usually submits a bidder's form blank to be used by all bidders for the sake of uniformity and definiteness. By doing this, the possibility in interpreting the bids for errors will be reduced. The form must be prepared in such a way that the bidder may bid on specific items or on the entire specifications.

Types of Bids

There are three general types of bids;

a) Bids covering the complete equipment of the school building.

b) Bids covering the equipment for one department or more.

c) Bids that cover one specific kind of furniture.

The first type is not common unless the desire on the part of the board of education for a general contractor for the equipment is quite evident. Few dealers are able to place a good bid on every line of equipment needed in a building. The second type is much more common as there are several manufacturers of laboratory furniture, library furniture, study-hall desks, and other special lines. The third type does not differ from the second.

From the standpoint of the board of education in the purchasing of equipment there are some advantages and also disadvantages in accepting one bid on all the equipment. There will be just one contractor, one performance bond, one guarantor, and one payee. A contractor may make a more harmonious and convenient set-up than that resulting from several contractors. On the other hand, no dealer or manufacturer makes all lines of equipment, and it is necessary for him to sublet or subcontract for the lines of furniture in which he is not primarily connected. This puts the purchaser just one step farther from the manufacturer, which means added cost. Besides any adjustment or speeding up of the work, goes through too many offices before reaching the source of the goods.

There is also the matter of price. Competitive bidding often keeps down the price in proportion to the number of bidders. The general bidders to furnish the complete set-up will be fewer if competitive bids are accepted on furniture for certain departments, or for a specific line of furniture. Again, if the manufacturer of the goods would permit a bid direct, then the profit of the jobber or dealer of that particular line of furniture would be eliminated. Manufacturers oftentimes submit such bids. If the board of education would give multiple contracts, it would be greatly to its advantage to avoid the general contract. The separating of the equipment into smaller contracts may be carried too far.

Determining the Successful Bidder

After the bids have been received and tabulated, the bidders and the board wish to know as soon as possible to whom the contracts are awarded. The lowest price on the tabulation of a sheet may be easily discovered, but it is not safe to award any contract upon this basis alone. It is necessary that the board be assured that the goods bid upon meet the condition of the specifications. It is desirable that the board check very closely each bid for discrepancies. If the low bidders seem to be prepared to meet the specifications, it will be necessary to examine their samples unless the board is familiar with them.

In requesting samples, it is not necessary to receive samples from all bidders, if it is quite certain that the contract cannot be awarded to a particular bidder. If the bidder whose material is being considered is entirely dependable and well known, a corner block or construction sample will be satisfactory as a full-sized desk or table. In case the bidder is an unknown firm, then full-sized samples should be examined. The lowest dependable bidder offering goods equal to the specifications will naturally receive the award, but it may happen that it is the highest bidder that is offering the best bargain. The bargain may be accepted if the conditions of bidding provide for the rejection of any or all bids. The lowest bids may be upon inferior goods, but there is also the possibility that the low bidder has reduced his margin of profit in order to place some of his goods in the given territory as an entering wedge for future sales.

Awarding of Contracts

After the best bids have been selected, the board of education may award all the bids at the same time, or it may place them one by one, as it is ready and without waiting for the others. The latter course is more satisfactory if the amount of the equipment to be purchased is large and the time limited. The goods requiring the longest time for delivery will naturally be selected first, such as science tables and other large pieces of furniture.

In contracting for equipment, the ordinary school requisition, or the firm's order blank, may be used. It is better, where the requisition form is being used by the board for filing purposes, to use the regular school requisition. A copy of the specifications for the furniture desired may be attached to the requisition and form a part of the contract. Before the board signs the contract, a very thorough check should be made of it and approved by the legal counsel.

Performance Bonds

The contract should specifically state the requirements for the performance bonds, and it should not be considered closed until such bonds have been delivered to the board of education and approved. Oftentimes a firm secures a contract for equipment without signing a time contract for its delivery, then the board of education has no recourse. If the firm cannot deliver goods on time and is not under contract covering the same, the delivery of the goods may be delayed two or three months. The performance bond of the bidders should be so clear and definite as to what is expected by the school board that there will be no questions as to its condition of forfeiture.

The size of the bond may be a given per cent of the contract awarded. Usually, 50 per cent of the contract price is sufficient, unless the bidder's price is so unusually low that in case of a forfeiture of the bond, the 50 per cent plus the original cost would not be sufficient to purchase the furniture from some other firm.

Installation of Equipment

Installation is an item of considerable importance and requires continuous attention until it is completed. If the bids have covered installation as they should, most of the work will be done by workmen from the factory, or by local men under the supervision of a factory foreman. The labor of local workmen should be utilized as much as possible, and the contractors usually agree to use the same. It is not advisable to depend upon the custodian of the building for the installation as he is not acquainted with the furniture and will waste much time. Equipment poorly installed gives poor service and is short lived. Again, the furniture should be checked when delivered, to see if it complies with the specifications under which the contract was awarded. A committee of the board of education or a competent man employed by the board should check it. The superintendent of schools may do this service provided he has assisted the board in preparing the specifications. Any equipment or furniture that does not comply with the specifications should be rejected and not be installed.

Settlement for Equipment Purchased

The terms for making settlement for the equipment is designated in the bidder's contract. Often this item plays a large part in determining the successful bidder. If the terms are cash, then the board of education is free to accept any or all bids. In submitting specifications to prospective bidders, it is important that the board of education set out in detail the terms expected to be obtained, in order to complete the transaction. If cash terms have been agreed upon, then it is a simple matter to make the settlement. Final settlement should not be made until all the equipment is properly installed and approved by the board of education. If special terms have been made, then the percentage in cash to be paid when the equipment and furniture is installed should be made and other payments as provided in the contract.

Recommendations to the Board of Education

It will be seen from the foregoing discussion based upon actual experience that the work of equipping a school is an important matter and involves considerable time of the board of education. Equipment is usually purchased in large quantities to go in a new building. After a board of education has gone through the job of erecting a new building the members are inclined to let up their vigilance and consider the matter of purchasing new equipment in a minor way. This is only natural, but certainly not desirable. A fine house poorly equipped makes a bad impression. High-powered salesmen of school-equipment firms usually try to lead the board of education to think their equipment is the best. There are three ways for a board of education to follow in purchasing the school furniture:

a) Appoint a committee of members to work with the superintendent of schools in preparing the specifications for the equipment.

b) Hold the superintendent of schools responsible for preparing the specifications.

c) Let school-equipment houses prepare the list for the board.

The first method is the most common and the best. It does not place all the responsibility on any one party. When members of the board of education are on the committee, other members of the board are more susceptible to their recommendations. In many cases, the superintendent is given the authority to prepare the specifications, as he is better able to know what is needed. However, many superintendents do not care to assume all the responsibility. The third method of letting equipment houses prepare their bids is not desirable, or satisfactory. In preparing their bids, they will not know the educational needs of the school and they will specify types of machines and furniture handled by their concerns.

After the specifications have been prepared, they are brought before the entire board of education for approval. The same thing is true of letting the contracts and making the final settlement.

The board of education which has been very successful in the matter of erecting a new school building will want to be successful in the purchasing of the equipment for the school. It is no little job and it should be attacked in a businesslike way. The same motto should apply in the purchasing of the equipment as in the construction of a new building: *Wise planning is wise purchasing*. I am sure that the board of education should make every dollar purchase one hundred cents worth of school equipment.

DEATH OF MR. THOMAS M. BOYD

Pioneer School-Furniture Manufacturer Passes On

Mr. Thomas M. Boyd, president and chairman of the board of directors of the American Seating Company since its formation, died at his home in Grand Rapids, Mich., on June 1, after an illness of several months. At the time of his death, Mr. Boyd was the oldest officer of the firm in point of service and experience in the school-furniture trade.

Mr. Boyd was born in Monroe, Ohio, July 22, 1860, and received his early education in the public schools of his native town. As a young man, he was engaged in business at Hamilton, Ohio, and then became treasurer of Butler county, Ohio, and later of the city of Hamilton.

THOMAS M. BOYD

It was there that he entered the manufacture of school desks and was influential in the organization of the American School Furniture Company, and later in March, 1899, of its successor, the American Seating Company.

Mr. Boyd was at all times interested in the improvement of school furniture from the standpoint of hygiene and utility for teaching purposes. He made a large contribution to the improvement of selling conditions in the school-furniture field, and made his life's work the upbuilding of the organization and of the personnel of his firm. He was particularly concerned about the personal welfare of all his associates and employees.

Mr. Boyd was always a retiring, modest man. His rise to the presidency of his company and his many years of service were based entirely upon his unfailing effort and his splendid service.

The funeral services were held at the First Unitarian Church, Chicago, on June 3, and interment took place at Hamilton.

TREND OF RATIO OF SCHOOL EXPENSE TO TOTAL EXPENSE IN 310 CITIES OVER 30,000 POPULATION

The Department of Research of the National Education Association has issued its new Circular No. 6, for May, 1932, containing statistics for school and city current expenses for 310 cities of more than 30,000 population during the year 1930.

The report contains a section devoted to the trend of ratio of school expense to total expense. In 1930, the cost for running expenses of public schools in the 310 cities over 30,000 in population averaged 36.6 per cent of the total city expense for operation and maintenance. The statistics show the trend since 1915 in the per cent of city expense going to schools. During this 15-year period, the figure rose from 30.1 per cent in 1915, to a peak of 37.9 per cent in 1924. Since 1925, the per cent has remained near 37.0, falling in 1930 to 26.6 per cent, the lowest since 1921.

The average for the 310 cities is largely controlled by the group of 13 cities over 500,000 in population, which spend more than the other 297 cities combined. The three groups of cities below 300,000 in population show no such trend as appears in the larger cities, toward a lower percentage of money for schools. The averages for the first four groups, including all cities above 50,000 in population, show that the per cent of money devoted to schools decreases as the city grows larger.

Releasing the Creative Power of Teachers

W. J. Klopp, Ph.D., Director of Teaching, Woodrow Wilson High School, Long Beach, California

The purpose of this paper is to set forth very briefly a few features of the general plan of supervision adopted by the Woodrow Wilson High School, under the principalship of John L. Lounsbury, and directed by the writer, by means of which the creative power of teachers might be released through coöperative supervision. The plan has been in operation for a period of four years and has been observed by educators of a score of universities in America and Canada, and by hundreds of administrators and teachers of secondary schools.

The Plan of Supervision

In the absence of heads of departments, due to the fact that the school had been in operation for only three years, it was comparatively easy to initiate the experiment. At the recommendation of Principal Lounsbury and with the approval of the city superintendent of schools and the board of education, one man was selected to assume the responsibility for the supervision of all departments and for the improvement of instruction. The qualifications set up for the director of teaching were: ability to teach, experience in teaching methods in an educational institution, knowledge of organization and administration of secondary schools, knowledge of secondary-school teaching problems, and ability to work with administrators and teachers.

The supervisor's first step in effecting an experimental set-up was to develop an *esprit de corps* among the teachers, and through it to discover the teachers' dominant interests and traits. This was not a difficult task when teachers discovered that the supervisor was not attempting to follow an inflexible schedule of visitation for the purpose of rating teachers. (This fact should be made clear at the outset, that as soon as a supervisor becomes known as a rater of teachers, he has lost his hold on the teacher and his hope for improving instruction through releasing the creative abilities of teachers will have been dissipated.)

The second step in supervision followed, naturally, that of making provision for the improvement of instruction through coöperation with teachers in the development of techniques and in the establishment of definite criteria for determining the needs of their respective groups. Experience has shown that with the present highly qualified teaching staffs it does not become incumbent upon the supervisor to initiate experimental procedures in all fields. In fact, it is a rare thing for him to be called upon to introduce any new methods, because the teachers, when given an opportunity to think for themselves, will supply all the suggestions necessary for their respective departments. Then there remains for the supervisor the task of analysis and organization of the suggested materials, and the development of an experimental set-up for immediate initiation. This plan becomes infinitely more effective in its procedure because both supervisor and teacher are working together and the experiment becomes meaningful to both.

The third step in the plan of supervision was to aid the department teachers in the organization of the course of study materials into teaching blocks or units. This was especially helpful in the natural sciences, mathematics, social sciences, English, and some of the commercial subjects. The purpose of this procedure varied with the content and teachers of departments. One of the outstanding purposes of such a unit organization was to secure departmental agreement on minimum essentials on the best supplementary materials for each unit, on the best general methods of classroom control and finally on the most effective means of measuring pupil progress within the department. It must by no means be inferred that such agreement within a department limited teacher initiative and originality; in fact, it stimulated both, since teachers with creative ability were given ample opportunity to enrich both method and content.

Some Dangers of the Unit Plan

The unit of a subject must be more than a mere division of content into so many parts. Each unit must bear a definite relation to the preceding and succeeding units. Each unit cannot be an end in itself, and cannot be left to the pupil to work out without intelligent introduction by the classroom teacher. Each unit must necessarily offer a diminution of guidance as the pupil progresses in the course, otherwise the unit will become a crutch and the child will become a dependent agent in the course. Each unit should be introduced with a diagnostic test constructed with the utmost care, for the purpose of determining the needs of the individual pupil; and this test must be followed by well-organized remedial drill exercises to satisfy the needs discovered by the diagnostic test. Each unit should tend to be self-administering even though the unit may take the nature of a review unit. The purpose of this is to relieve the teacher of too much miscellaneous teaching, and will give her an opportunity for guiding the pupils in real need.

It should be observed that the unit progress tests are usually factual tests; they do not test power. Take, for example, the unit tests in first-year algebra: Here you will find comprehensive tests for skills and manipulation; pupils will show increasing ability to solve problems by certain formulas and processes, but there is no way of telling just how meaningful these formulas or processes are to the child until he is confronted with material situations somewhat different in their setting from those appearing in the unit. His ability to set up techniques for the solution of new mathematical situations will determine for him the effective value of his unit experiences. It is therefore essential to the development of power to set up certain problem situations at the end of each unit to test his understanding of the use of the tools which he has acquired and the ease and accuracy with which he can use them.

The Contract Method

In the courses in English and the languages, the contract method has been effective when applied to organized units of work. Here again the department had to exercise extreme caution not to overmechanize the work for the child. In our department we found it quite sufficient to offer a comprehensive plan for the semester, setting forth definite goals for the class and providing ample material for supplementing the course to meet the varied interests of the group. The most effective contract plan has been operative in the short-story and the essay classes. The chief merits of this plan are to develop responsibility, punctuality, confidence, and appreciation.

It might be stated that no attempt has been made to estimate the cost of the plan. It is obvious that the director of teaching must have an office well equipped for research in all fields. This necessitates a competent secretary, mimeographing facilities, and adequate filing facilities. The plan requires on the average more stencils and paper than the head-of-department plan.

The latter plans are not without definite expense as may be observed from the fact that in the large high schools there are usually ten to twelve department heads, each receiving from $100 to $300 additional salary and enjoying a reduced teaching load from five classes daily to two or three classes. If the cost of office space for each department and research facilities are accounted for, it is easy to understand that this departmental cost may be estimated at $18,000.

Some Evidences of Success

The success of supervision cannot be measured on the basis of amount of money spent to carry on a plan. Changing attitudes of teachers, deepening interests of teachers in their respective fields, greater freedom from restraint, freedom to create with the aid of one trained in experimental method and procedure, opportunity to initiate techniques under controlled conditions and supervised by one trained in research, deeper insight into the relationships of subject matter and the need of articulation for the enlargement of the experience of the pupils — all these and other advantages cannot be measured objectively. Since the experiment has been in operation techniques of sufficient scope have been developed and tried out to make possible the completion of requirements for the master's degree by fourteen teachers and the development of experimental data for advanced work leading to the degree of doctor of philosophy and doctor of education.

At the beginning of the experiment in supervision, the high school was rated as a Class B high school by the state university. Within three years the rating was changed to Class A by the same university. At least part of this progress has been credited to the plan of supervision.

Other factors might be enumerated which appear to indicate improvement of instruction as a result of this type of supervision. For a period of two years, in the departments where definite creative activity had been operative, the effect upon pupil progress as measured by standard tests was measurable with statistical certainty. In fact, in the commercial subjects and mathematics, the results were definitely superior when determined by large groups and compared with established norms.

In order to give the reader a more definite conception of the methods of approach in the development of methods and techniques for the improvement of instruction, some of the most satisfying evidences of progress by departments will be treated in greater detail.

Department of Mathematics

I am beginning with this department because the first definite improvement in technique was made in this department. This was probably due to the fact that the teachers, at least some of them, had had experience in experimental research and had made some effort to improve their situation in both the high school and the junior college. The first problem confronting this department was that of conducting reviews. It is not a new thing to teachers of mathematics to find reviews ineffective, uninteresting, and wasteful of time. The reason is obvious. In the first place, few teachers know what the individual members of a class know, and what they need to know of mathematical concepts to become proficient in advanced assignments. The usual procedure is, and has been for years, to rush

through the entire gamut of mathematical experience, trusting to some mysterious process that pupils will exercise their power of selection and elimination, thereby getting what they need and rejecting what they already know. The only fallacy in this supposition is that if they would and could exercise those powers under the old scheme of reviews, such exercise would be curbed by required uniform assignments, thus allowing the pupil little opportunity for such selectivity and rejection.

This query then led to the proposition that a diagnostic test must be created to determine these needs. This was followed by the development of certain drills to supply remedial measures for the satisfaction of the discovered needs. The next step in the scheme was to develop objective tests sufficiently comprehensive to test mastery of the concepts and skills appearing in consecutive units of work. The complete plan was developed by K. K. Heilman and Leslie J. Nason of the Long Beach Junior College staff,[1] resulting in the creation of nine distinct units for first-year algebra and nine units for third-semester algebra, each unit beginning with a diagnostic test, followed by remedial drills and tests. The first six units of first-year algebra covered the minimum essentials and had to be completed for credit. The first five units of third-semester algebra covered the review of the first year's work and were followed by new mathematical set-ups for new experience. Each unit was developed with the idea in mind of offering a diminution of guidance to the pupil so that in the case of third-semester algebra a superior pupil could complete the required work by the middle of the semester and then be free to take on new situations to be studied and mastered on his own initiative and without guidance except in case he reached a "plateau."

Some of the results of this experiment were as follows:

1. There was a time saving of 23.6 per cent by all experimental groups.

2. Pupils of the experimental groups made significantly higher scores than did the control groups, both on immediate recall and in retention.

3. Eighty-five per cent of a group of 100 first-year pupils surpassed the median of the norm of the Columbia Research Test in Algebra.

4. The time-saving factor permitted 46 per cent of the pupils to do advanced work over a period ranging from one week to a complete semester, showing the effect of this plan on the rate of pupil progress.

5. After an interval of twelve weeks, after having had the work of the first four units, two groups were tested to determine the factor of retention with the following results:

Groups	*Unit I*	*Unit II*	*Unit III*	*Unit IV*
77-Control	77	52	54	44
87-Exper.	87	81	81	65

It is obvious that the rate of forgetting was greater in the control group than in the experimental group. Both groups were selected on the basis of previous grades and intelligence score.

Department of English

In this department the same difficulty appeared with regard to reviews in formal grammar, to the extent that in many classes over half the semester was devoted to the arduous task of drilling syntax, etc., daily. As a result, pupils were not only sick of the course but had lost all respect for their mother tongue. To correct this tragic situation, informal grammar drills were established by R. D. Woodward, member of the English teaching staff, on the same basis of algebra. More opportunity was offered to apply grammatical principles to real situations both in written and oral expression, and the unit experiences were enriched with abundant reading material.

The result of this technique was satisfying to both pupils and teacher. It made the slow and lazy work harder to arrive at set goals; it gave the faster and superior pupils an opportunity to complete the mechanics of expression sooner and opened the field of literature to them for enjoyment.

One of the unpopular courses in many a high-school curriculum, although frequently elective to seniors, is the essay, and yet the essay has intrinsic merits for both content and method scarcely equaled by any course in the school curriculum. The chief difficulty of this course is its formalism and indefiniteness in organization. Under the contract method developed in the department of English by Miss Anna Stoffet, the course has a definite set of aims and objectives which are set up for and with the pupils, and these aims are not only recorded in a notebook for safe keeping but are always in evidence with each contract. By this plan the pupil is instructed in the matter of what to do and how to do it; how to check the nature and character of his work and his progress; when his work is due and his responsibility to each daily assignment. He always knows where he stands in the course. The contract method sets up three definite goals: The first goal receives a reward of highest grade; the second goal average grade; and the third goal a passing grade. The standards of each goal are well established. The following is the set-up for a maximum grade for a period of eight weeks:

1. Quantity requirements:
   - *a*) Résumé of Introduction to Tanner's Essays and Essay Writing.
   - *b*) Sixteen essays read (familiar or informal essays).
     - (1) Short reports on eight of the above.
     - (2) Long reports on eight of the above.
   - *c*) Eight original essays (informal).
   - *d*) Completion of all work on the theme folder, involving correction of all errors, complete records required on index sheets, error graph, and spelling chart.
   - *e*) All collateral reading requirements.

At the beginning of the eight-week period each pupil is provided with definite instruction sheets for intelligent procedure with each contract. The results of these contracts as expressed by both teachers and pupils may be stated as follows:

1. Pupil progress is easily determined.

2. Pupils develop a sense of responsibility, for the burden of their work rests upon them and they learn to budget their time.

3. Judging from the results of the college-entrance tests, known as Subject A tests, in which pupils must receive a grade of B or better to pass, the contract method produces a passing group of 85 per cent and better.

4. Pupils display an increasing ability in literary criticism which is evidenced in their reports, and they become increasingly discriminating in their tastes for essays.

If space permitted, further instances of the effective value of supervision in redirecting and raising the standards of work in other departments of the Woodrow Wilson High School might be described. Enough has been offered to justify the claim that supervision in the high school need not be a schedule of class visitation and evaluation of teacher performance. Supervision is definitely a coöperative activity. Its true function is to lead and guide teachers in capitalizing upon their own resources, and to create without repressive restraint.

[1]The theory and organization of the unit plan have been more fully described by Leslie J. Nason, in his master's thesis on "The Effect of Diagnostic and Remedial Reviews on the Improvement of Teaching Third Semester Algebra." University of Southern California, 1931.

ECONOMY IN SCHOOL COSTS

If it becomes necessary, in the interests of public economy, to reduce the amount of money available for teaching in the public schools, it is suggested that the following sequence of possible activities for effecting such economies be given careful consideration: All possibilities for the increase of teaching loads should first be exhausted; all possible consolidations of class and schools should be completed. Before attempting salary reductions the possibilities of economy through the selection of teachers on the lower levels of the salary schedule for any positions or for replacement of teachers leaving the service should be exhausted. Readjustment of salary schedules for the purpose of establishing equitable ratios between the salaries paid to the several groups of school employees (namely, administrative officers, supervisory officials, principals and teachers) should be effected. — Vierling Kersey, State Superintendent, California.

Doors of Opportunity

Ernest Sibley, A. I. A., Palisade, New Jersey, and
Lawrence C. Licht, Associated Architect

From time immemorial man has accented and embellished the portals of the building which he has conceived, striving to appropriately express the character and the importance of the structure which he seeks to adorn.

The embellishment has not always been restricted by good taste or the exercise of harmonious architectural treatment, but of all the arts, architecture has made the most rapid strides. Fresh influences are always at work to advance this most universal of the arts.

The entrance to almost any structure will attract our attention, but as we approach a school building, memories revive, experiences are reflected, and our eyes seek out the doorways. These represent to us the entrance to broad educational opportunities, and the exit from which we later go forth to exercise for human profit, enjoyment, and progress the powers developed therein.

In this school-building entrance, we present an essential architectural detail, which should challenge the highest skill of the designer.

To the esthetic qualities of a doorway, the skillful architect will not fail to add the elements of spaciousness, convenience, ease of operation, and such construction of the door itself as will guarantee a measure of permanence.

Engineering skill and manufacturing methods have produced school-door hardware which, when properly installed, will operate smoothly and efficiently.

In the design of the doorways illustrated, there has been an effort to emphasize the qualities which we acclaim.

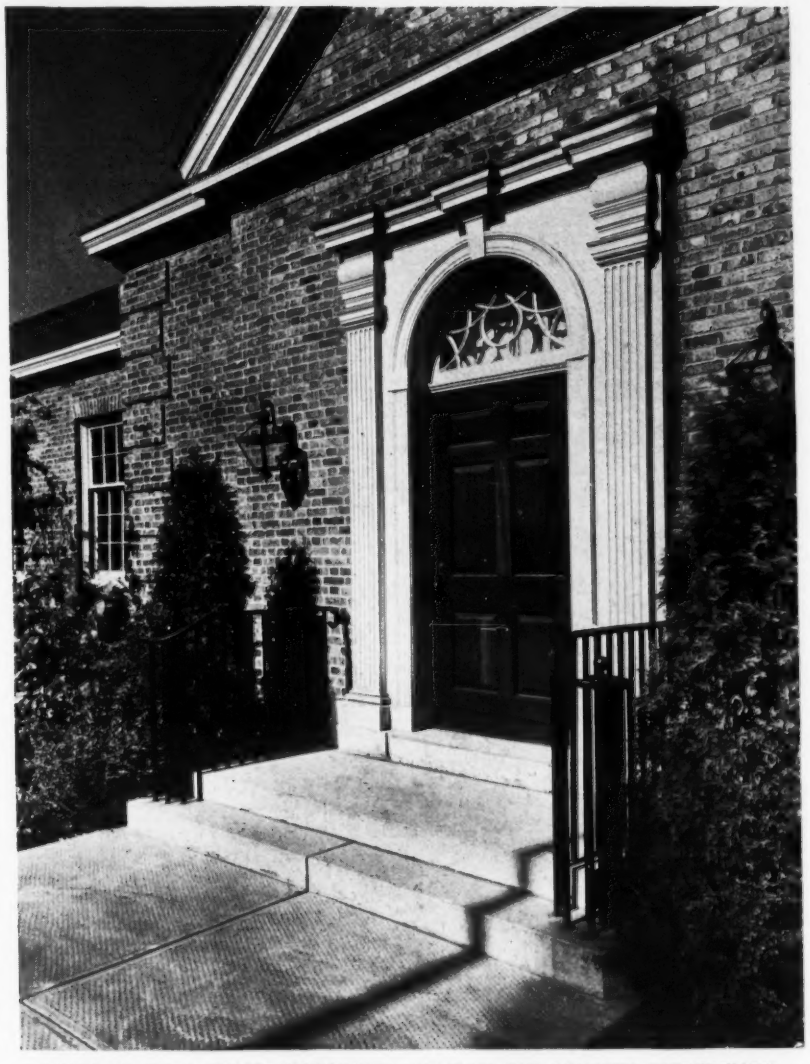
From the stately portico of the high-school building on the Palisades of the Hudson, to the friendly sheltered entrance designed for the children of a village in central New York state, we have endeavored to endow with worthy architectural qualities, the doors behind which opportunity waits.

A TYPICAL PUPILS' ENTRANCE TO HIGH SCHOOL BUILDING AT ORANGE, NEW JERSEY

Built of sturdy materials; three steps above grade.

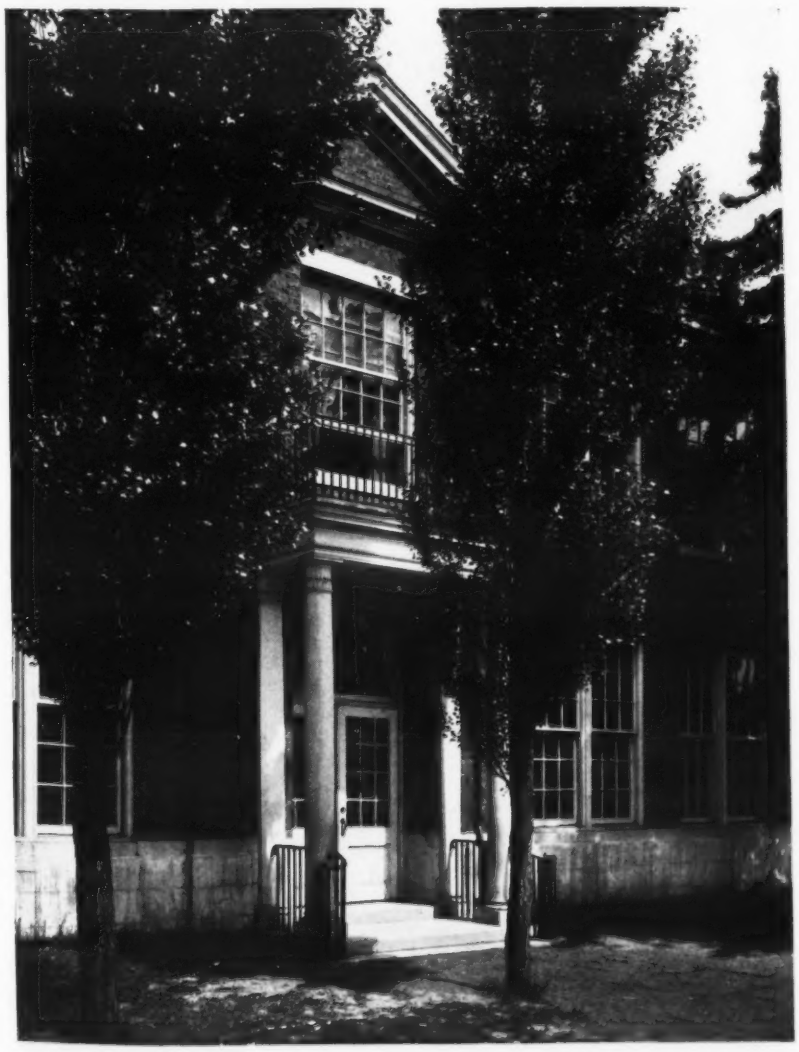
Doors recessed for their protection and separated by a mullion, thus simplifying the hardware and dividing the traffic.

Doors and transom glazed, thus assuring light and visibility. The transom is leaded glass, the design of which is lost in the photograph.



DOORWAY TO A SMALL COMMUNITY ROOM IN THE LUDLUM ELEMENTARY SCHOOL, AT HEMPSTEAD, NEW YORK

The room has a stage and is used by the school for activities in Music and English.



AN INVITING STOOP AT THE FRONT ENTRANCE TO AN ELEMENTARY SCHOOL AT LEONIA, NEW JERSEY

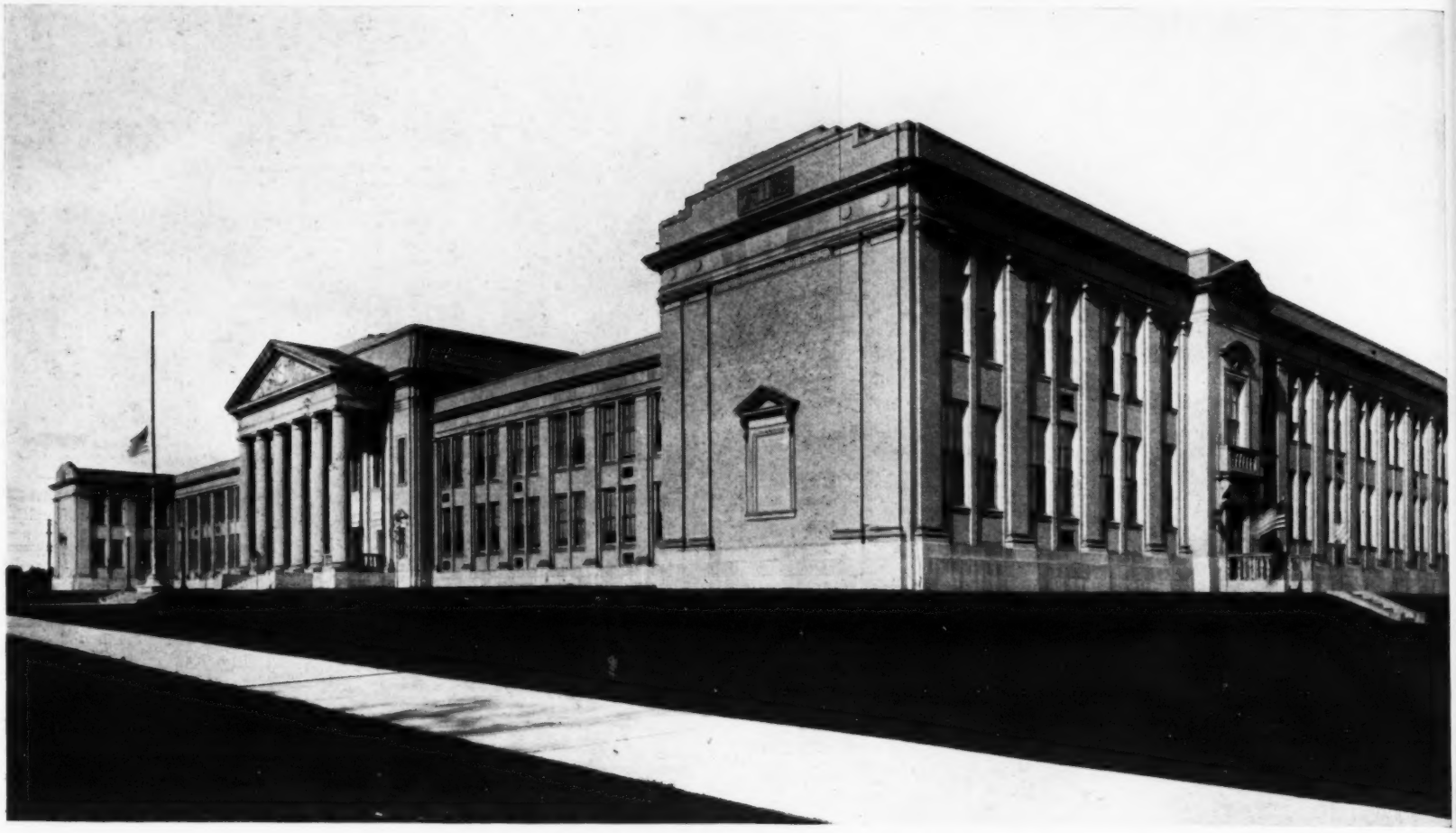
Its friendly, domestic character seems appropriate for a school which is surrounded by homes, and which houses only the smaller children.

MAIN ENTRANCE TO THE HIGH SCHOOL BUILDING AT FORT LEE, NEW JERSEY

The treatment marks with dignity the most important entrance to the building.

This school occupies a commanding site, overlooking the approach to the George Washington Bridge, which spans the Hudson River between New Jersey and New York City.

Ernest Sibley, Architect; Lawrence C. Licht, Associate Architect, Palisade, New Jersey



STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania

A High-School Building That Serves Broad Community Needs

The Well Planned Strong Vincent High School at Erie, Pennsylvania

With the possible exception of the large city hospital, the metropolitan type of urban high school represents the most closely organized and economically planned of public buildings in the United States. Administrative and instructional requirements have quite definitely located and limited the larger units of space, and have determined the grouping of departments and the means of pupil-circulation. Limitations of site have invariably caused architects to make compact plans, and limitations of cost have compelled them to exercise the greatest moderation in the use of ornament and in the choice of materials. The large urban high school is, as a rule, more distinguished for functional planning than it is for elaborate ornament or high unit cost. Where failures have occurred, they have usually been in the direction of overindulgence in the requirements of teachers, principals, and superintendents for shop, laboratory, and other instructional units which are not altogether necessary for a reasonably balanced secondary education.

A new high-school building that represents the best standards and traditions of the present decade in completeness, functional planning, economical use of permanent materials, and good architectural design is the Strong Vincent High School at Erie, Pa. The building is generously planned and completely equipped for an inclusive program in secondary education in a typical, progressive American city. It is two stories high and without basement except for the cafeteria, the swimming pool, and the mechanical plant. The most careful consideration has been given to the location of the departmental groups of classrooms, shops, and laboratories, to the location and relation of the physical-education unit, the auditorium, the library and study units, and the administration offices. So, too, careful study of travel routes and distances have been taken into account for administrative purposes, night use of the building, and rapid exit. Various departments of the building may be used as independent units, and the typical-use situations have been considered in the heating, ventilation, sanitary facilities, lighting, etc.

The building has a total of 2,111 student stations in all the instructional rooms except the auditorium, cafeteria, citizens' library, and special rooms. It is estimated that the normal working capacity will amount to 85 per cent of the total stations so that the building should readily serve 1,800 students with a minimum of daily periods and should reach a capacity considerably in excess by the use of a staggered daily program.

The dignified Italian Renaissance exterior has been developed in a smooth gray brick with gray sandstone trim. The building is constructed with concrete foundations, reinforced

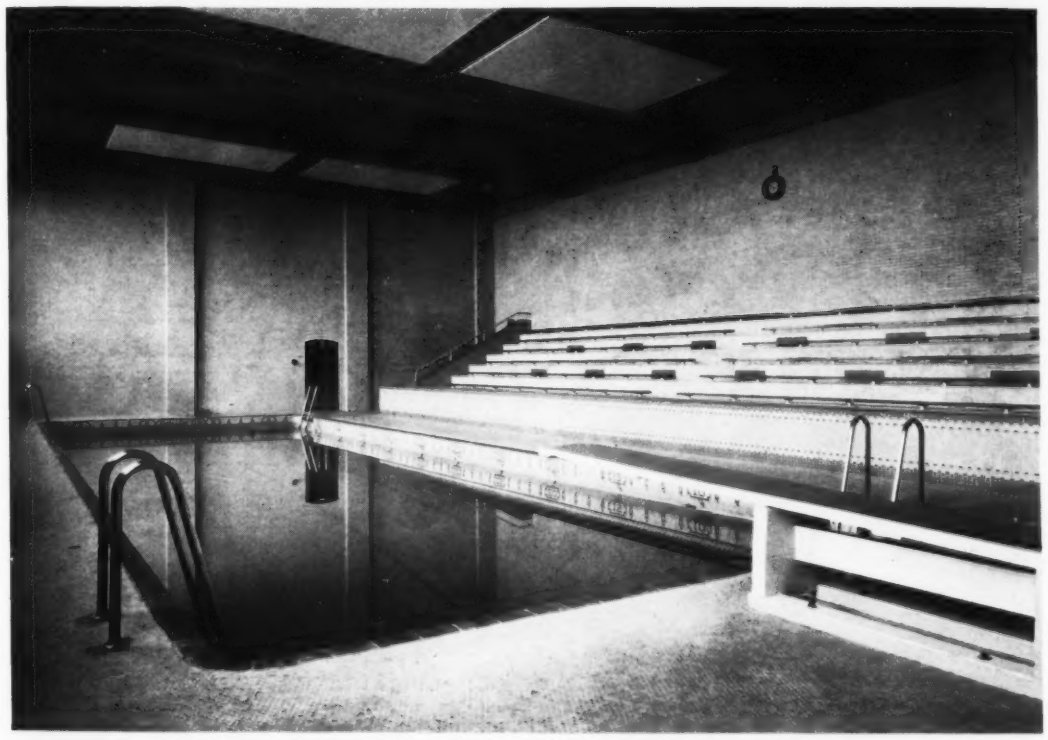
LIBRARY, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architect, Erie, Pennsylvania

concrete columns, beams, and slabs. It has exterior and interior brick walls and interior tile partitions. For coolness in the summer and warmth in the winter, the second-story ceilings are furred throughout. The large spans of the auditorium, gymnasium, and swimming pool are carried on structural-steel columns and trusses. The roof is of four-ply composition throughout except over the portico which is treated with Greek roofing tile.

The corridors throughout have been treated for heavy wear because of their important service for circulation. The walls have been coated with Keene's cement wainscot to a height of 6 ft.; the walls above are plastered as are also the ceilings; the floors are of cork tile with terrazzo base and border. The corridor drinking fountains are finished with tile. The metal lockers on both the first and second floors are built in. The eight main stairways, which have been located for directness of student travel, are constructed of concrete with terrazzo treads, risers, and strings and metal safety treads. They have concrete balustrades plastered and finished with oak capping and marble newel posts.

Outside doors are of hollow metal; inside doors are flush five-ply veneer except for special rooms where metal fire doors have been employed. The main-entrance vestibule, the adjoining corridor, and the foyer have been treated in precast Mycenium limestone walls and trim, plaster ceiling, terrazzo floor and base.

CHEMISTRY LABORATORY, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania



SWIMMING POOL, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania

The toilets are finished with tile floors and wainscoting, plastered walls and ceilings, and toilet partitions of metal.

Throughout the class and recitation rooms have been finished with plaster walls and ceilings, maple floors, oak trim, natural slate blackboards, and tile window stools. The laboratories are finished similar to the classrooms except that they include built-in storage cases, sliding blackboards for teachers, and special plumbing fittings. The music room has been treated to correct the acoustics, and soundproof doors have been provided. The home-economics department includes a cooking room fitted with tile wainscoting, plaster walls and ceilings, and a mastic floor; the sewing room with plaster wall and ceiling, linoleum floor; a laundry with cement floor and base. The general shop has smoothly finished brick walls, a plaster ceiling, and a blox-on-end floor.

The library has been finished in harmony with the general design of the exterior of the building with plaster walls and ceilings, cork-tile floor, built-in book stacks.

The two gymnasiums have smooth gray brick walls, hard-maple floors, and recessed radiators. Celotex acoustic treatment is provided on the ceilings.

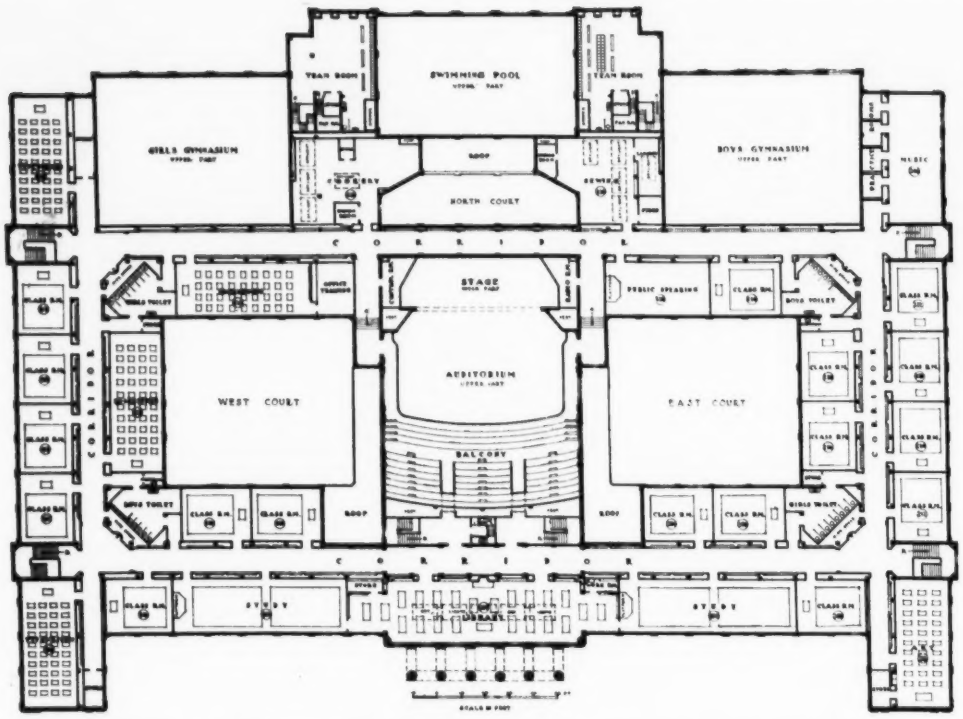
The swimming pool measures 20 by 60 ft. and is fitted with a tile floor, smooth gray brick walls, and an acoustically treated ceiling. It is equipped with a chlorinating machine, heaters, filters, etc. The shower and locker rooms have brick walls, plastered ceilings, tile floors and showers, metal box lockers and metal general lockers. The partitions in the girls' dressing booths and showers are of metal.

The cafeteria is finished with tile wainscoting, plastered walls and ceilings, tile floors and wainscots.

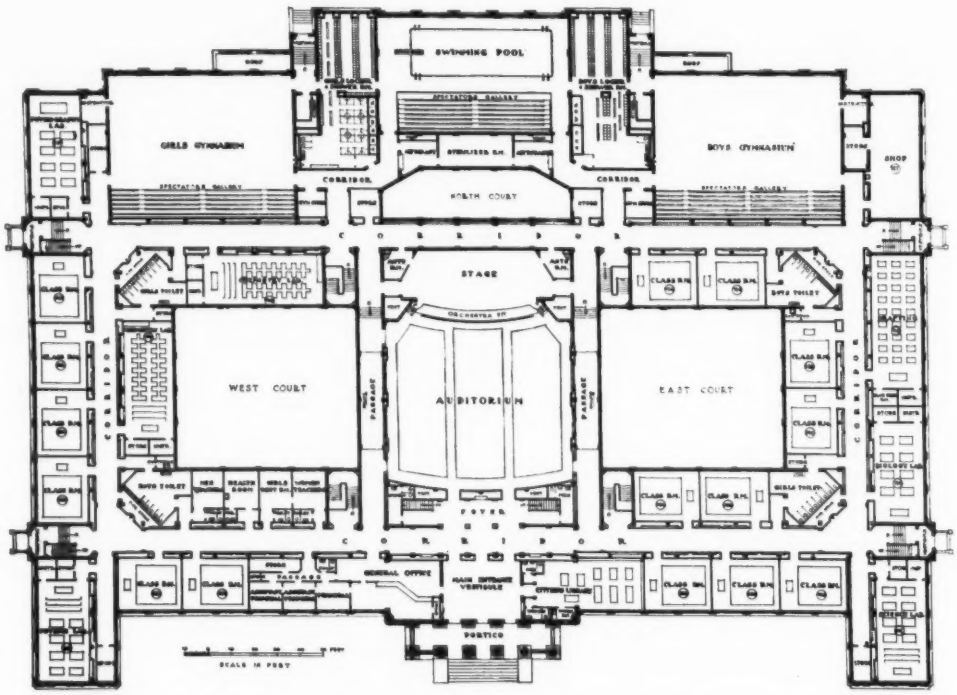
The auditorium has a mastic finished floor with cork-tile covering over the aisles. The walls are plastered and there is a moderate treatment of ornamental wood-panel wainscoting. The stage is equipped with disappearing footlights, velour curtains, cyclorama, etc.

The building has been planned for use not only by a cosmopolitan high-school organization; its further use by adult groups has been

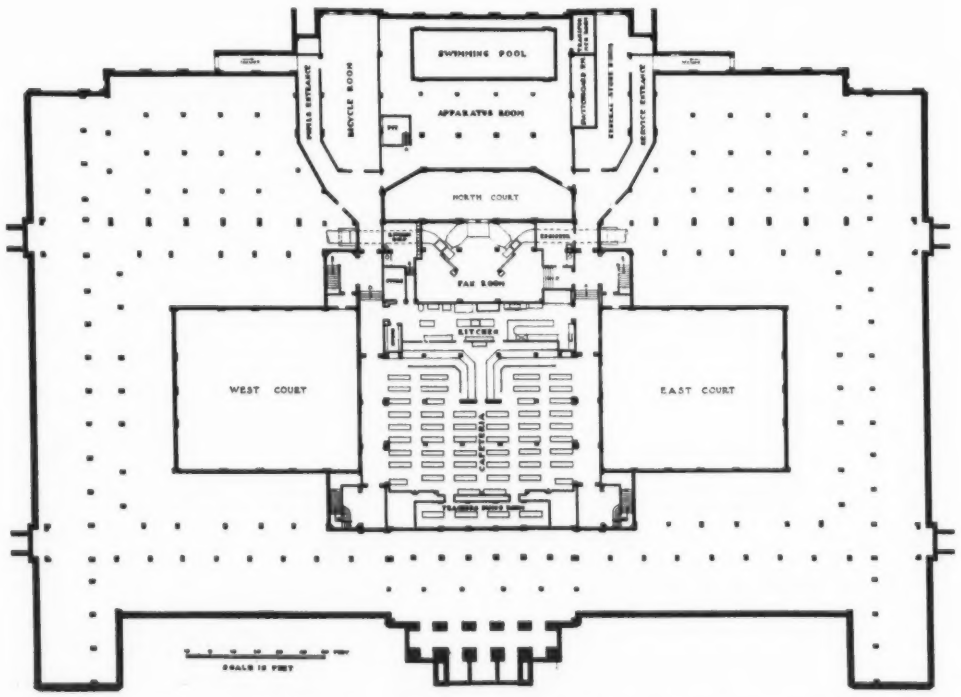
TRACY SCHOOL, MILLCREEK TOWNSHIP, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania



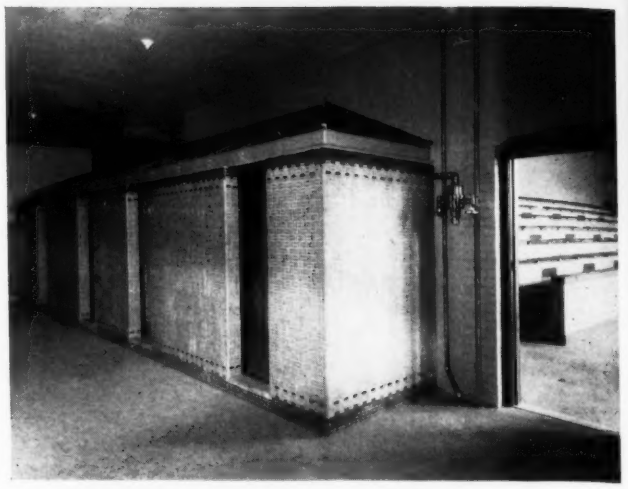
SECOND FLOOR PLAN, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA



FIRST FLOOR PLAN, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA



BASEMENT PLAN, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania



BOYS' SHOWERS, STRONG VINCENT HIGH SCHOOL, ERIE, PENNSYLVANIA
Meyers and Johnson, Architects, Erie, Pennsylvania

carefully taken into account. The gymnasiums and the swimming pool have separate entrances and service corridors so that they may be entirely shut off from the main building and may be used quite independently of the balance of the school. The auditorium similarly is a self-contained unit with entrances, corridors, and stairways that are readily shut off from the balance of the building.

The cafeteria in the basement may be similarly used as an independent unit. So also the citizens' library.

The heating and lighting systems are so arranged that the physical-education group, the auditorium, the cafeteria, and the citizens' library are each independent units which can be controlled for warmth, ventilation, and artificial lighting without interference with the rest of the building and independent of one another.

The building is heated by means of a split system, operated with steam supplied at a minimum cost by a local service company. Independent central fans are arranged for the physical education department, the auditorium, and the cafeteria. All other rooms are provided with independent unit ventilators and automatic temperature control.

The electrical equipment includes complete lighting and power lines for operating ventilating fans, power machinery, etc.; the time and program system, the fire-alarm system, and the stage lighting supplied by independent units of the electrical system.

The plans for the building were prepared by Messrs. Meyers and Johnson, architects and engineers, Erie, Pennsylvania, and the construction was carried on under the supervision of this firm.

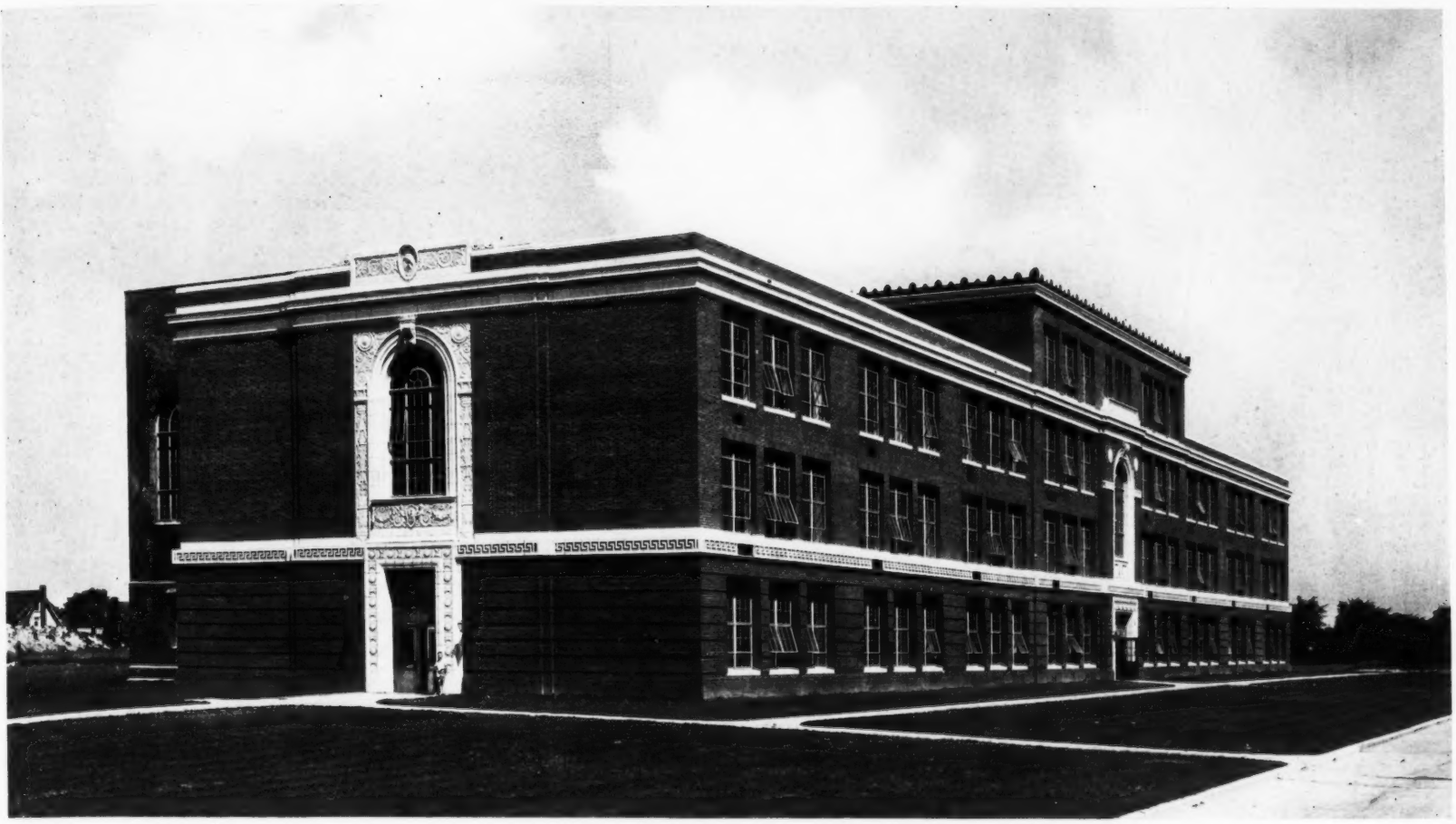
Contracts for the building were awarded in September, 1928, and classes were first organized and operated in September, 1930.

The total cost of the building, exclusive of site, was $1,078,955. The cubical content of the building is approximately 3,552,800 cubic feet. On the cubic basis the cost was 30 1/3 cents per foot.

♦ Lewiston, Me. The school board has adopted a budget for the school year 1932 which calls for a total of $244,635, which is a reduction of $43,102 from the budget of 1931–32. The budget provides for salary cuts on a sliding scale of 5, 7½, and 10 per cent and sets a minimum salary of $950 for the next school year.

♦ Boston, Mass. Pending the adoption of the annual budget by the school board, the business manager has recommended a second appropriation on account, totaling $2,411,000 in addition to the appropriation account of $6,591,000 passed last April.

♦ Racine, Wis. Another economy program, estimated to reduce school costs approximately $25,000 a year, in addition to the previous economies totaling $150,000 has been proposed by the board of education. The program will not affect teachers' contracts, but will involve a reorganization of the school system.



JOHN R. BUCHTEL HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

Akron Builds Two Distinctive High Schools

Joseph B. Hanon, Former President of the Board of Education

Akron's official school architect, Mr. M. M. Konarski, has designed a type of high-school building for this city that is so original in its principal features as to merit a presentation of its plans and advantages. Dr. Thomas W. Gosling, superintendent of schools, aided in the development by contributing many valuable ideas in connection with the educational features of the building. The result is eminently satisfactory in actual use, and the buildings are attracting wide attention.

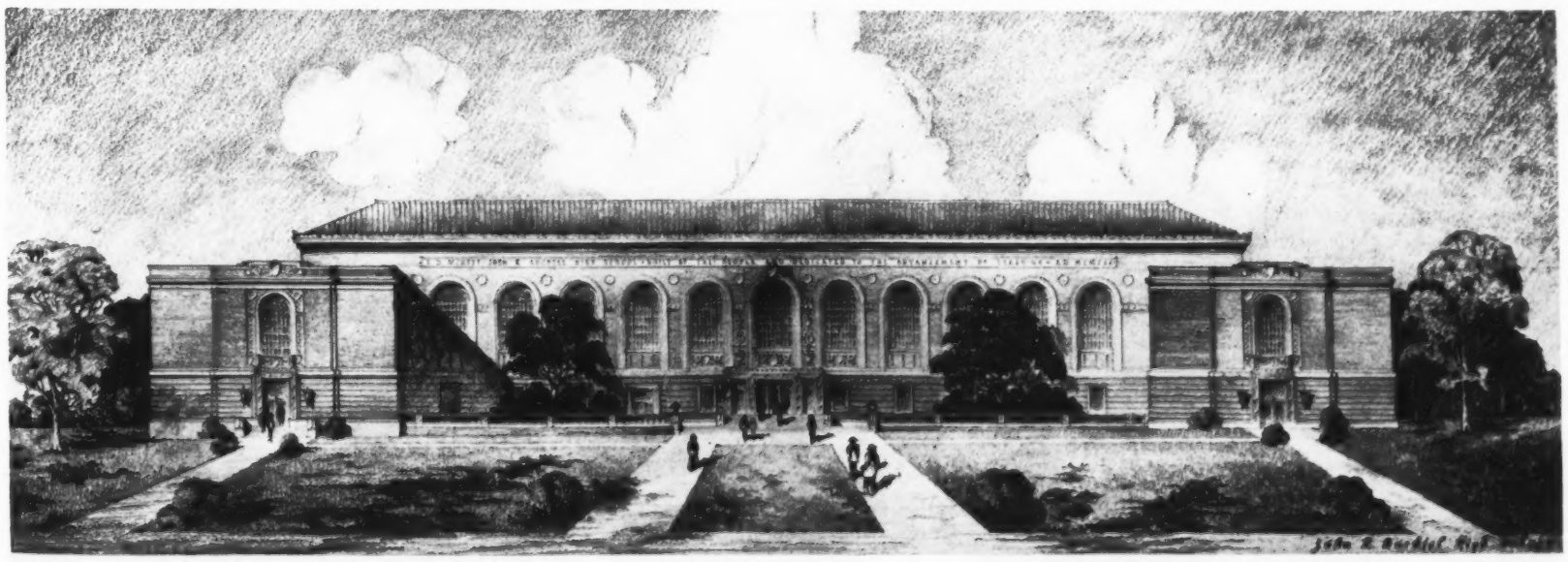
Work on the West Hill building was started in the summer of 1930. It is named in honor of John R. Buchtel, one of Akron's early industrial leaders and philanthropists. A new North Hill High School was necessary, so this building begun in 1930 has also been completed. The interior plans of the two are identical, but the exterior architecture is very different. North High is modernistic while the John R. Buchtel is of Italian Rennaissance.

The outstanding feature in the design of these two buildings is the centralization, horizontally and vertically, of those facilities used by all students. Every educator knows that one of the big problems in a building accommodating 3,000 students, is the movement of those students during class changes.

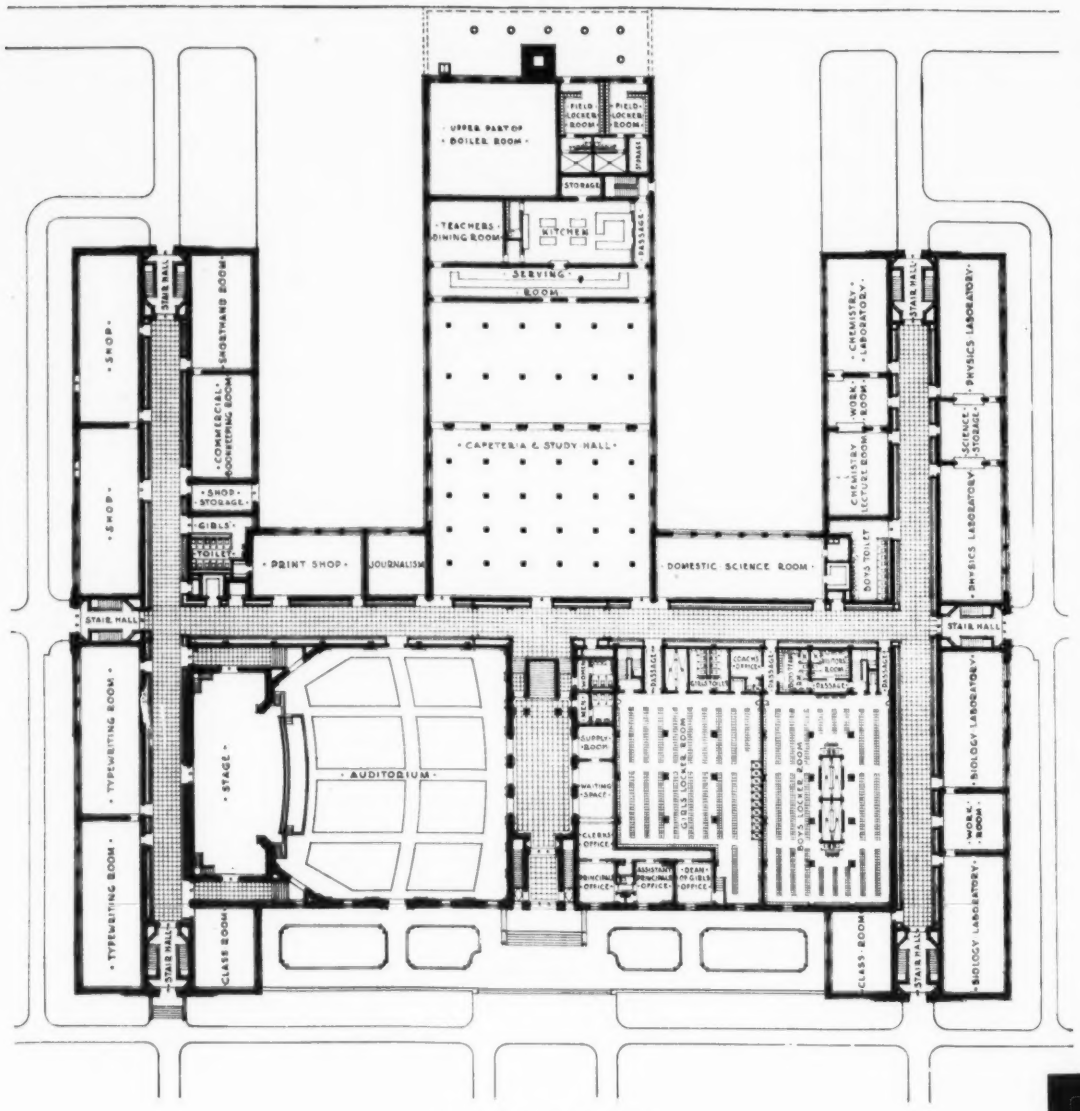
Under this scheme of centralized design, the travel time, and distance from classrooms to special rooms are greatly reduced, and by the unusual arrangement of the main units, much congestion is avoided.

The auditorium, for example, which is designed to seat 1,600 students, or about half the building population, is located on the first floor at the front and center of the building. Akron's plan of school operation takes only half the students into the assembly hall at one time, so the main floor of the auditorium is designed to accommodate half the population of the first and second floors. The balcony takes care of one half the third-floor population. Another special feature of the auditorium design is its accessibility from three sides instead of the usual one. This means quick movement of population, and is aided by the fact that only the second-floor pupils have to leave their floor to enter the assembly hall.

There are two gymnasiums, one for boys and one for girls. They are on the second floor



ULTIMATE DEVELOPMENT OF THE JOHN R. BUCHTEL HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio



GROUND FLOOR PLAN

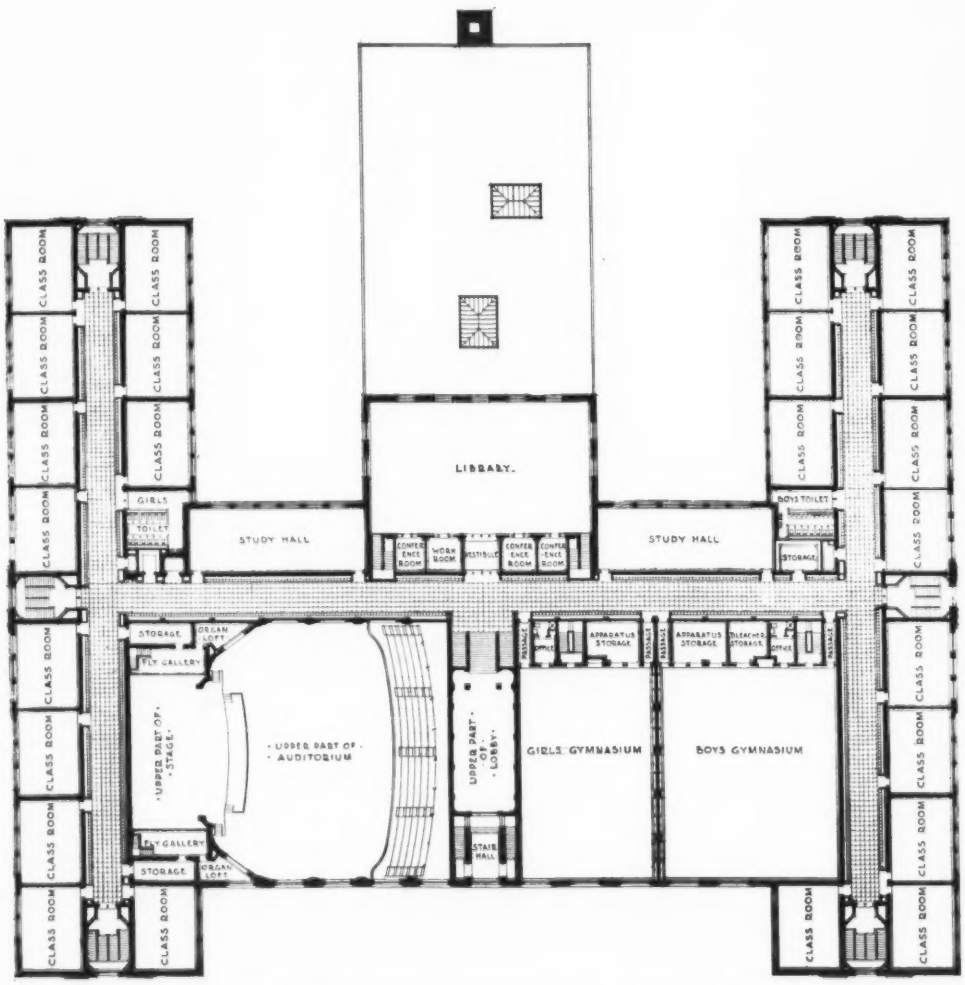
of the building, in the center, so any travel to and from them is only one half the building distance vertically and horizontally. This feature cannot be emphasized too much, and its advantages will be immediately apparent to any schoolman. Locker rooms are located conveniently on the floor below the gymnasiums.

Since there is frequently considerable discussion as to the proper size of a gymnasium, it may be interesting to know that a study was made of actual operations in gymnasiums. Thirty-six square feet of floor space per pupil were found adequate for all calisthenic work. When apparatus is used, even less space is required. The boys' gymnasium accommodates two practice basketball games, and the girls', one. It was not felt that the board of education should provide large indoor athletic stadiums for public games, when these facilities are available elsewhere in the city and can be rented as needed.

The location of the entrance lobby and administrative offices carries out the general idea of centralization. We find the main entrance in direct line with the usual visitor approach, in the center of the main façade. Along the main lobby are the administrative offices, convenient from the outside, centrally located on the inside, yet segregated from the hum and noise incident to school activity.

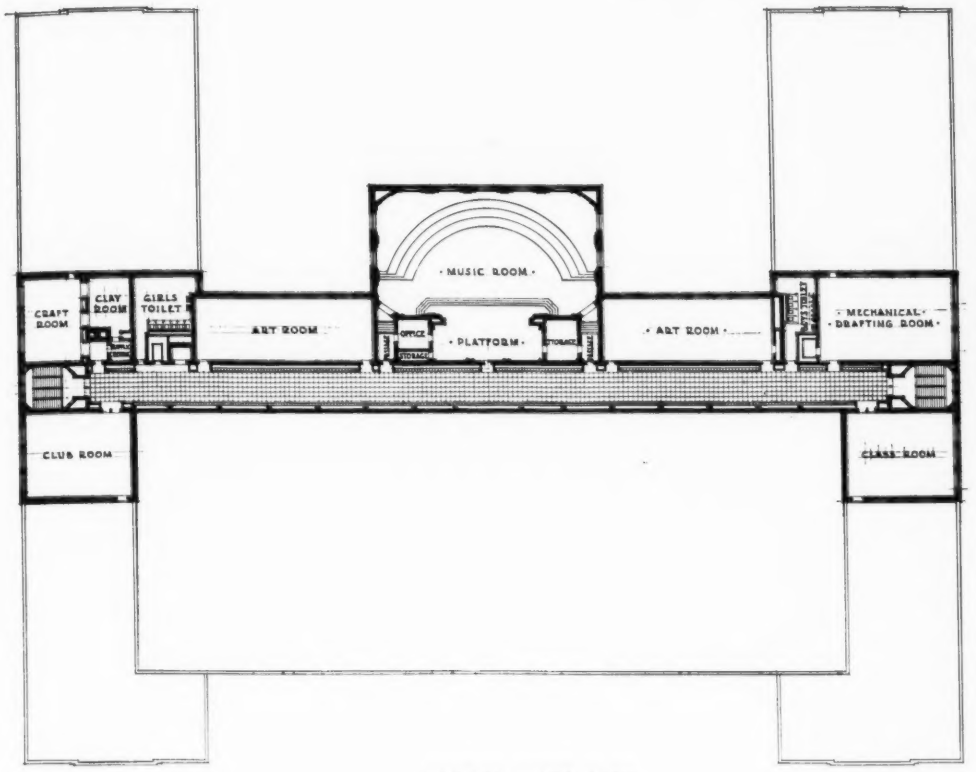
In few buildings are equal study-hall facilities to be found. Each floor has adequate provision for this activity, thus avoiding all up and down movements of students. The rooms are located centrally, again, so as to require only the minimum in sidewise travel.

The cafeteria is located on the first floor in the center wing. It is so arranged that it can be shut off from the kitchen and serving area

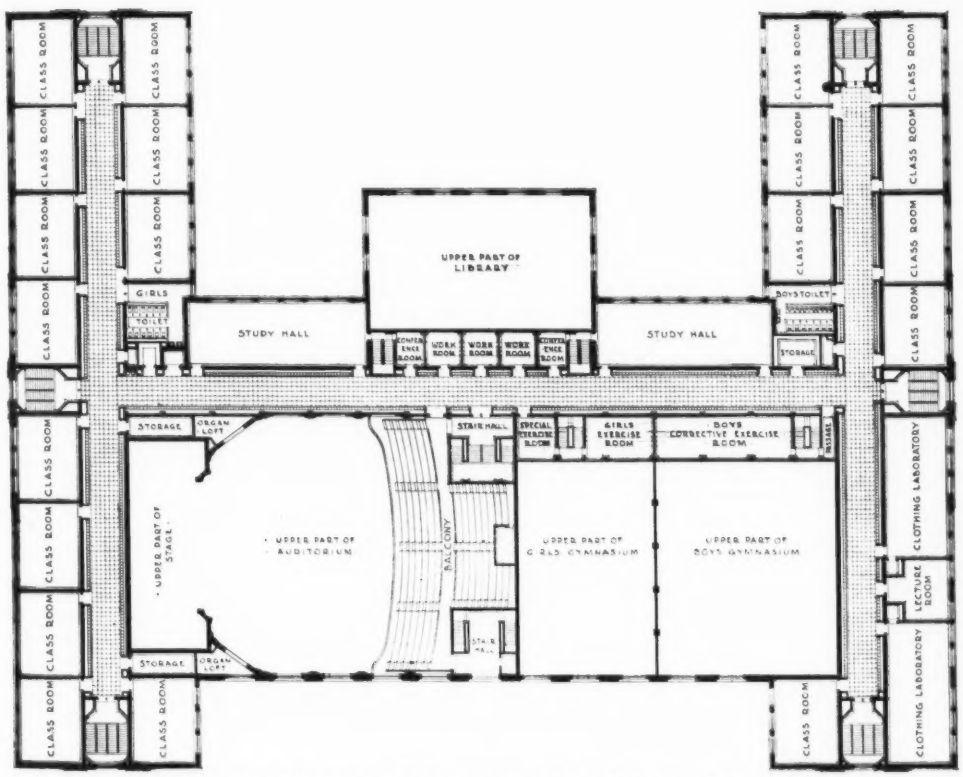


SECOND FLOOR PLAN, JOHN R. BUCHTEL HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

SOUTH ENTRANCE, NORTH HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

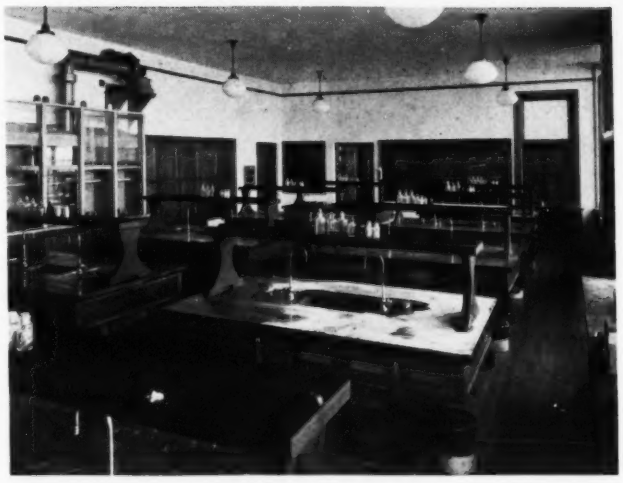


FOURTH FLOOR PLAN

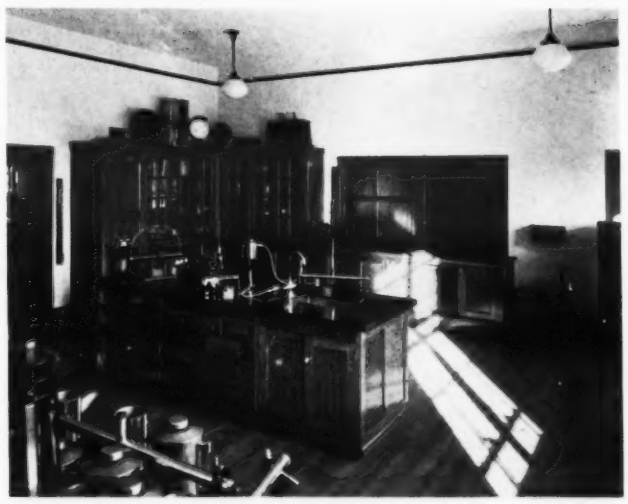


THIRD FLOOR PLAN, JOHN R. BUCHTEL HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

PHYSICS LABORATORY



CHEMISTRY LABORATORY



TEACHERS' WORKROOM NEXT TO PHYSICS LABORATORY,
JOHN R. BUCHTEL HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

during the day and used for a study hall. There are three reasons for placing the cafeteria in the center wing of the first floor: It affords easy access for supplies; it removes the kitchen and its odors as far as possible from other parts of the building; it affords an easy exit for the children in fair weather, thus offering them more inducement to get out in the open during the lunch hour.

Many special rooms find their place on the first floor. The domestic-science rooms are here, next to the cafeteria. The educational advantages of this are obvious. In the right wing are the science rooms — biology, physics, chemistry — and the necessary storerooms. In the left wing are the commercial rooms, general shops, printshop, and accompanying storerooms.

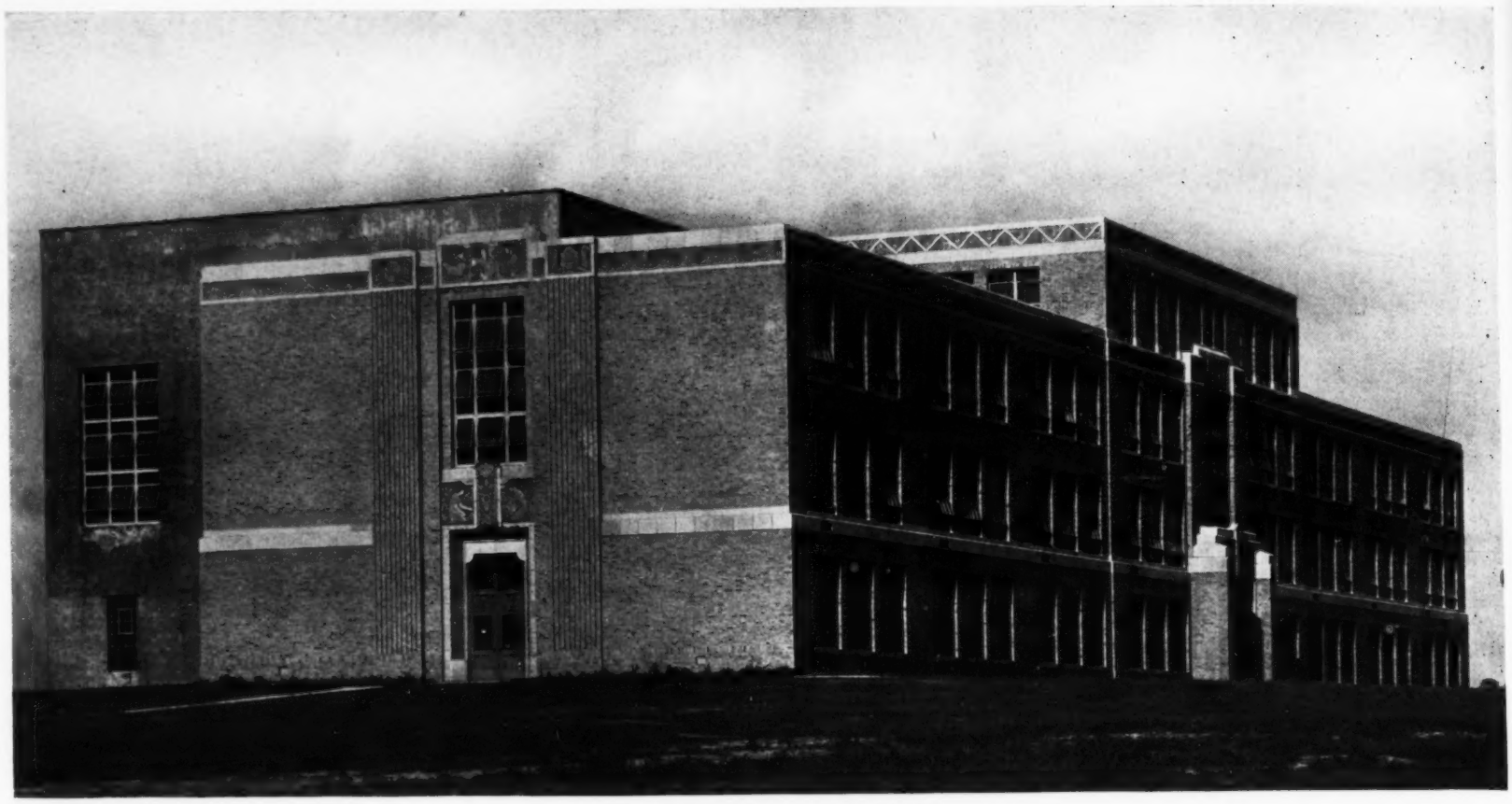
Another practical touch in the design of these buildings is found in the location of the two field locker rooms on the first floor in a part of the building near the athletic field. This arrangement prevents conflicts and congestions in the regular gymnasium locker rooms.

Upon passing to the second floor, we find the main floor of the library, so located that it is halfway up and halfway down, and in the center of the building horizontally. There are study halls on each side of the library, with conference and workrooms near by. The entire available remainder of the second floor is devoted to academic classrooms.

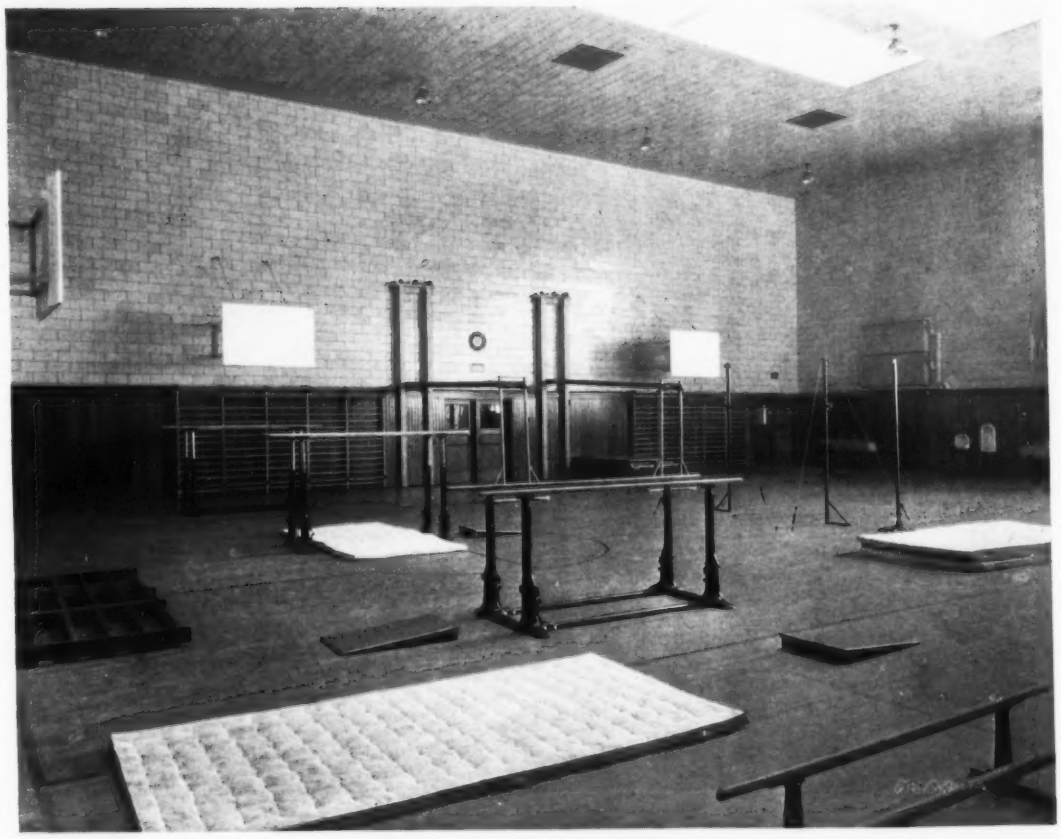
The first feature of the third floor is the location of two study halls, and a number of work and conference rooms on either side of the library. Direct access to the main floor of the library is provided without the necessity of using the corridors and regular stairs. From the third floor we enter the balcony of the auditorium. Near the gymnasiums are found special corrective-exercise rooms. The remainder of the floor is given over to the clothing laboratories and regular academic classrooms.

An elevator carries students to the fourth floor, which is the social and fine-arts center of the building. Here are two artrooms, mechanical-drawing rooms, arts-and-crafts room, clay room, and the large music room. The last mentioned is placed on the fourth floor to keep the sound as far away as possible from the rest of the building. The entire facilities of this floor comprise those activities which are participated in by relatively the fewest pupils, so their location carries out the general design idea of providing for minimum student travel.

Both buildings are heated by steam and ventilated by unit ventilators. There is a boys' toilet and a girls' toilet on each floor, and special toilets are located near the auditorium. Radio and telephone facilities are provided in each room.



NORTH HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio



GYMNASIUM, NORTH HIGH SCHOOL, AKRON, OHIO
M. M. Konarski, Architect, Akron, Ohio

The unusual position of the large rooms — auditorium and gymnasiums — in the front façade makes possible a monumental treatment of the exterior design and gets away from the stereotyped high-school appearance. It also simplifies the heating problem, because only one side of these rooms is exposed against the usual three walls in the traditional design.

After reviewing these plans, it is felt that the Akron board of education under the leadership of its president, its superintendent, Dr. Gosling, and its architect, Mr. Konarski, are to be congratulated on these two fine structures; and Akron has reason to be proud of the two buildings being erected, which are so monumental in appearance, yet so practical in design.

EQUALIZATION OF STATE SCHOOL FUNDS

Twenty-six states have now set up equalization funds for the support of schools in areas which lack the tax ability to maintain them properly, according to the Office of Education at Washington.

During the biennium, 1928–1930, at least fifteen states enacted new equalization laws, strengthened those in force, or increased the equalization grants. For example, Alabama in 1927 provided a $900,000 fund, and Illinois provided a new method for distributing the state school fund. In 1930, the Kentucky legislature came forward with an equalization fund of $1,250,000.

Two constitutional amendments creating equalization funds were proposed by a special session of the Louisiana Legislature in September, 1930, and were voted favorably by the electorate in November of the same year. One amendment provides that 1 cent additional per gallon shall be levied on the retail sales of gasoline and that one-half of the proceeds shall be known as the state equalization fund for schools for the purpose of aiding the poorer parishes on basis of their educational needs. It is estimated that this tax will produce $1,000,000 annually for the equalization fund, and since it went into effect at once, plans for disbursing the proceeds have already been set up.

The second amendment directs the legislature to provide an annual minimum state school fund of $12 per educable child, $10 of which shall be apportioned to the parishes on the basis of the school census and the remainder when available, estimated at $300,000, shall be assigned to the state equalization fund. The 1930 Utah legislature also proposed a constitutional amendment creating an equalization fund. This amendment was voted favorably in November of the same year. It directs the legislature to provide for an annual fund amounting to $5 per school child.

Among the states which provided for larger equalization funds during the biennium were Arkansas, Illinois, Michigan, Mississippi, New York, North Carolina, Ohio, Oklahoma, Tennessee, and Texas. Of these, Arkansas appropriated under the 1929 law to the equalization fund, which had been established in 1927, $750,000 a year from the proceeds of the newly created income tax and an equal amount from the tobacco tax; Illinois increased the state distributive fund from which the equalization fund is derived 25 per cent; Michigan and North Carolina each doubled their appropriations for equalization in 1929; Texas increased the annual amount for the biennium 1929–1931 over that for the preceding biennium from $1,600,000 to $2,500,000.

Percentages estimated in a few cases, show that the equalization grants ranged from 88 per cent of the money provided, in the State of North Carolina to 10 per cent in New Jersey.

School-Building Expenditures in Relation to School-Building Costs

T. C. Holy and W. E. Arnold, Bureau of Educational Research, Ohio State University

That periods of business depression have a marked effect upon the willingness of voters to approve school-bond issues, despite the sharp reductions in building costs during such periods, is strikingly revealed by data collected for the State of Ohio. Analysis of reports of the past four years to the Bureau of Educational Research of Ohio State University show that the amount of school bonds approved by voters of Ohio school districts at the regular elections fell from $24,368,000 in 1928 to $1,184,000 in 1931. Data are not available on the bond issues submitted at other than the November elections. However, the amount of such issues is probably negligible in comparison with that offered at the regular elections.

School boards sensing the attitude of the voters have evidently believed it futile to submit bond issues, for the amount of such proposals submitted in 1931 was only 8 per cent of the amount submitted at the 1928 election. This decline may, of course, be partially due to less need for new school buildings in 1931 than in 1928. The extent to which this is true cannot be given, but from a rather intimate knowledge of schoolhousing conditions in Ohio the writers believe that this factor has not been significant in the reduction.

Examination of Table I reveals a striking contrast between the prosperous year 1928 and the year 1931. This condition is perhaps better revealed in Figure 1 which translates a part of

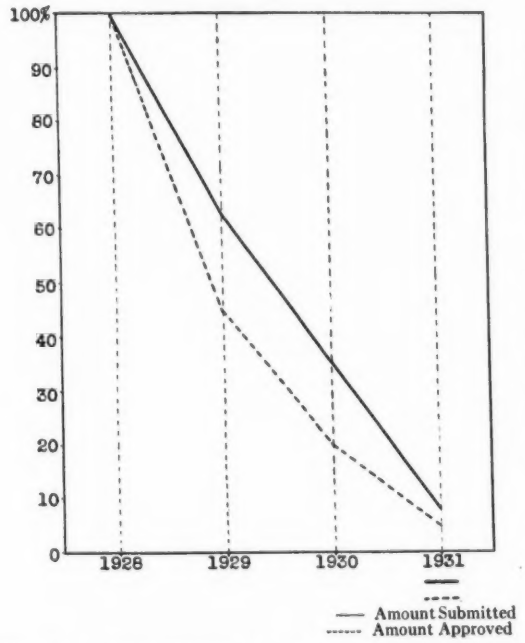


FIGURE 1. COMPARISON OF THE AMOUNT OF SCHOOL BOND ISSUES SUBMITTED AND CARRIED IN OHIO FOR THE PERIOD 1928–1931 INCLUSIVE. 1928 EQUALS 100%.

the data presented in Table I into index numbers based upon the year 1928. This figure shows graphically the great decrease in the amount of bond issues proposed and approved for the period included in the study. Using the year 1928 as 100, the drop in the amount submitted is steady and uniform, falling to 63.1 in 1929, 35.6 in 1930, and to 8 in 1931. Likewise, the amounts approved, still using 1928 as 100, dropped to 45.5 in 1929, 20 in 1930, and to 4.9 in 1931.

The American people usually do things by extremes. Thus, school buildings are erected most plentifully when times are good and the voters have plenty of money. The fact that interest rates on bonds and construction costs are high does not stop the free voting of bonds for new buildings. On the other hand, when times are hard, bond issues are refused in spite of low building costs and low interest rates. The authors show how true this is of one of the largest states, namely, Ohio.—Editor.

Volume of Bond Issues as Voters' Sentiment

The question might be raised as to whether this decrease in the amount of bond issues proposed by the school boards reflects accurately the sentiment of the voters. A further examination of Table I, which shows a steady decrease in the percentage of the issues proposed which were approved, indicates such to be true. The fact that the voters defeated an increasing number of the issues submitted each year in spite of the fact that fewer were submitted, seems to justify the school boards in reducing the number. While it cannot be conclusively proved, yet it might be inferred that on the whole the issues submitted in 1931 were for the purpose of meeting much more pressing needs of the schools than were those of 1928. For example, in 1931 but $226,000 of the $1,184,000 submitted were in the city and exempted village school districts which comprised in 1930, 66.5 per cent of the total population of the state. Of the $226,000 but one issue of $6,000 carried. It seems reasonable to suppose that in the face of increasing chances of defeat, school boards are postponing all except the most urgent issues.

There are many facts not shown in the tables, which illustrate rather vividly the conditions pointed out in the foregoing. For example, in Ohio, city and exempted village districts taken separately, it was found that the amount of school-bond issues submitted fell from $19,376,000 in 1928 to only $226,000 in 1931. Of the amount submitted in 1928, $19,024,000, or 98 per cent, was approved, but in 1931, as already stated, only $6,000, or 2.6 per cent, of the $226,000 submitted was approved. While the county districts made a somewhat better showing, yet even among these districts the same tendency is evident, for in 1928, $8,877,000 was submitted, of which $5,344,000 or 60 per cent was approved, and in 1931 only $2,047,000 was submitted, of which the voters approved $1,178,000 or 57.5 per cent.

The writers have no intention of arguing that there should be no reduction in school-building activities during times of economic depression. However, there are a number of interesting observations which can be made from a study of the costs involved in capital-outlay expenditures during contrasting periods in the economic condition of the country.

Schools Built When Costs Are Highest

Table II shows the amounts expended annually for school buildings and grounds in Ohio from 1915 to 1930, inclusive. The most striking fact revealed by this table is the great increase in the amount of school-building construction during this period. It is interesting to note that this increase has closely followed the

TABLE II. Expenditures for School Buildings and Grounds in Ohio by Years for the Period 1915 to 1930, Inclusive*

Year	Expenditures for Buildings	Expenditures for Grounds	Total for Bldgs. and Grounds	Index, Using 1915 as Base
1915	$ 7,438,156**	$ 976,179**	$ 8,415,335	100
1916	7,359,325	867,271	8,226,596	98
1917	6,601,713	1,006,104	7,607,817	90
1918	7,993,466	715,744	8,709,210	103
1919	7,107,438	758,055	7,865,493	93
1920	9,679,158	1,803,900	11,483,058	136
1921	13,714,091	2,665,714	16,379,805	195
1922	27,194,001	1,412,905	29,912,224	355
1923	27,761,446	2,168,526	29,929,972	356
1924	25,840,553	1,692,969	27,533,522	327
1925	14,041,995	2,440,117	16,482,112	196
1926	18,113,411	2,333,880	20,447,291	243
1927	19,452,094	2,075,488	21,527,582	256
1928	21,164,924	1,784,750	22,949,674	273
1929	18,718,271	1,733,253	20,451,524	243
1930	19,960,061	1,396,445	21,356,506	254

*These figures taken from records in the Ohio State Department of Education.

**Prior to 1916, expenditures for buildings and grounds not reported separately.

For 1915 this amount has been divided on the basis of the average percentage (11.6 per cent) of total used for school grounds during years 1916–30.

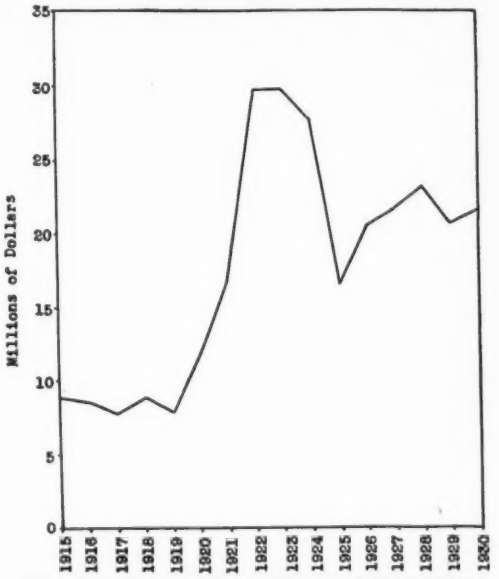


FIGURE 2. TOTAL EXPENDITURES FOR SCHOOL BUILDINGS AND GROUNDS IN OHIO FOR THE PERIOD 1915 TO 1930, INCLUSIVE

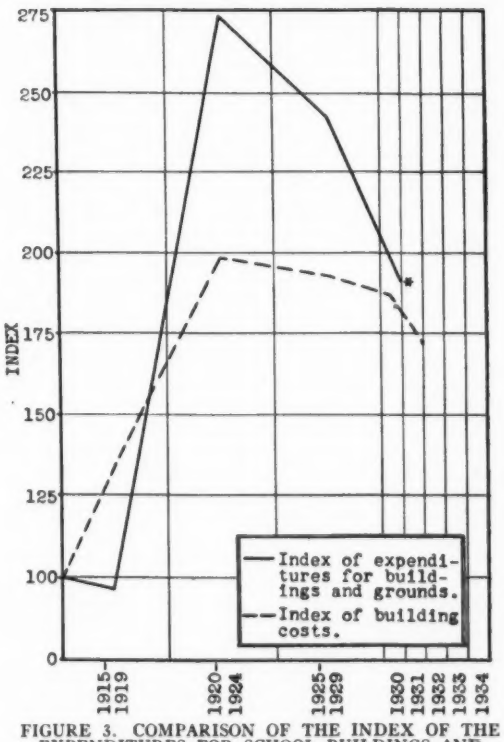


FIGURE 3. COMPARISON OF THE INDEX OF THE EXPENDITURES FOR SCHOOL BUILDINGS AND GROUNDS IN OHIO AND THE INDEX OF BUILDING COSTS BY FIVE-YEAR PERIODS USING 1915 AS THE BASE

*Estimated for 1931.

Note: The cost of building indices for 1930 and 1931 are averages for those years. The index for 1932 is of January 1.

TABLE I. A Comparison of School Bonds Submitted and Carried at the Regular Elections in the State of Ohio for 1928, 1929, 1930, and 1931

	1928	1929	1930	1931	Total
Number of issues submitted	150	179	118	41	488
Amount of issues submitted	$28,253,000	$17,828,000	$10,069,000	$2,273,000	$58,423,000
Number of issues carried	98	113	66	21	298
Amount of issues carried	$24,368,000	$11,090,000	$ 4,835,000	$1,184,000	$41,477,000
Per cent of issues carried	65.3	63.1	55.9	51.2	235.5
Per cent of the *amount* submitted which carried	86.2	62.2	48	52.1	248.5

increase in building costs. As the index of construction costs goes up, the amount of building increases, and as building costs fall, the amount of building decreases. In other words, the higher the cost of building, the greater the amount of building done. The wide fluctuations in the expenditures for school buildings and grounds, as given in Table II, are better shown graphically. Figure 2 has, therefore, been prepared and from which the rapid increase in annual costs, particularly for the period 1919 to 1923, can be clearly seen.

Figure 3 shows the fluctuation in the index of building costs together with an index of amounts expended for school buildings in Ohio by five-year periods using 1915 as a base. Due to the fact that the approval of bond issues and the actual expenditure of the money for buildings are usually separated by a period of one or two years, it is necessary to group the data into longer periods in order to observe the general trends. For this reason the five-year periods were selected. It will be observed from Figure 3, that there is a marked tendency for the two lines to fluctuate together.

Buildings Erected When Money is Plentiful

It is apparent that during periods of prosperity and high prices, it is easier to secure money for school-building purposes. That such a condition has some merits cannot be denied if the period of prosperity only is considered. During such times most things are relative. Money is cheap and therefore may be used more freely. The incomes of taxpayers are at a maximum, thus making it easier to pay taxes. Other factors might be cited to support the argument that it is a wise policy to erect school buildings in prosperous times despite high costs and likewise, to stop such building during times of depression despite low building costs. There can be little doubt that such practice is the easier one from the standpoint of securing the consent of taxpayers to the issuance of bonds.

The fact should not be overlooked that school buildings have a life which overlaps fluctuating periods of economic prosperity and depression. Voters approve in a year of prosperity the erection of buildings which will be used for many years. More important, perhaps, is the fact that the great majority of school-building construction is financed by means of bond issues. These bonds are retired over a period of years. Usually when bonds are issued in times of high prices, the bulk of the debt must be paid when values have changed and the dollar is worth considerably more. The money spent for a school building when building costs are high, must often be paid for when the same building could be replaced at a much reduced cost. This situation is strikingly revealed in Table II which shows the amount expended for new school buildings in Ohio since 1915. As has already been pointed out, the greatest amount of building was done when building costs were greatest.

Assuming that all this building had been done during periods of lower costs, as in the year 1915, it is found that Ohio could have saved $111,575,697 in building costs alone. In terms of 1915 building prices, Ohio has paid from 1915 to 1931, $252,140,103 to get $140,564,406 worth of 1915 school buildings. The distribution of these figures by years is shown in Table III. It will be observed from this table that for the years 1920 and 1923, the purchasing value of the dollar was less than one half that of 1915. Unfortunately, a large part of this extra cost must be repaid when prices have fallen which obviously makes taxes more burdensome than in periods of high prices.

Evil Results of Past Practices

The situation is still worse when it is realized that much of this money was borrowed by means of bonds drawing a high rate of interest which is not reduced when prices fall. For example, school bonds sold during March, 1921, yielded an average of 5.79 per cent, while those sold in March, 1931 — ten years later — had an average yield of only 4.15 per cent. The interest for *one year* on one million dollars at 1931 rates was $16,400 less than at 1921 rates. The same proportion of difference continues to be paid throughout the life of the bonds issued in the two periods. The significance of this difference in interest rates is best shown by comparing the difference in interest charges of one million dollars of twenty-year serial bonds of equal payments sold in 1921 and in 1931. The total interest charges on the 1921 issue would be $579,000, while that of the same amount at the 1931 rate would be $415,000, or a difference in interest charges alone of $164,000.

TABLE III. The Expenditures for School Buildings and Grounds by Years Equated in Terms of 1915 Building Costs for the Period 1915–1930, Inclusive

Year	*Amount Actually Expended*	*Value of 1915 Dollar*	*Value Received on Basis of 1915 Prices*	*Difference in Amount Expended and 1915 Values*
1915	$ 7,438,156	$1.00	$ 7,438,156	0
1916	7,359,325	.89	6,549,799	$ 809,526
1917	6,601,713	.769	5,076,717	1,524,996
1918	7,993,466	.662	5,291,674	2,701,792
1919	7,107,438	.56	3,980,165	3,127,273
1920	9,679,158	.408	3,949,096	5,730,062
1921	13,714,091	.59	8,091,314	5,622,777
1922	27,194,001	.56	15,228,640	11,965,361
1923	27,761,446	.495	13,741,916	14,019,530
1924	25,840,553	.505	13,049,479	12,791,074
1925	14,041,995	.515	7,231,629	6,810,366
1926	18,113,411	.507	9,183,499	8,929,912
1927	19,452,094	.52	10,115,089	9,337,005
1928	21,164,924	.526	11,132,750	10,032,174
1929	18,718,271	.526	9,845,810	8,872,461
1930	19,960,061	.534	10,658,673	9,301,388
Total	$252,140,103		$140,564,406	$111,575,697

In Ohio this higher interest rate on bonds issued during times of high bond yields, is now being paid for buildings which could be built at the present time for millions of dollars less than they cost when built.

It has been stated earlier in this article that the writers had no intention of arguing that Ohio school districts made a mistake in erecting this great number of school buildings during this period. They have attempted, however, to point out what could have been saved both in actual construction cost and interest charges if these buildings could have been erected in more favorable times.

From all indications, the immediate future offers an unusual opportunity to school districts which have waited to issue bonds for new school buildings. Interest rates should be low, and building costs are falling rapidly. If the business cycle holds true to form, money borrowed now can be repaid when conditions are better and the dollar is cheaper. However, when economic conditions are best for building new schools by means of bond issues, the voters are much more likely to defeat any such proposals.

Despite these difficulties, millions of dollars could be saved the taxpayers of Ohio alone, if it were possible to lead the voters to see that *"hard times" are good times to issue bonds for needed school buildings.*

Criteria For Standardizing Instructional Supplies

H. D. Richardson, Madison, Wisconsin

In a previous article, "Desirability of Standards in Instructional Supplies" (SCHOOL BOARD JOURNAL, July, 1931, p. 57), the advantages of standards in instructional supplies in terms of efficient instruction and sound business administration were presented. That advantages result *per se* from utilization and purchase standards in instructional supplies is too naïve a statement to be accepted unequivocally. That standards are desirable and that advantages will result, depends in no small measure upon two conditioning factors, viz., the general adequacy of the standards determined, and the wisdom and efficiency with which the standardizing program or technique is initiated and maintained. It is one thing to speculate concerning the advantages of standards on the assumption that they are already in existence, but it is quite another to plan a program for developing standards which once established will insure advantages in the nature of more efficient instruction and better business administration.

A comprehensive program for developing standards in instructional supplies is not likely to "just happen." "Standards" arrived at by irrational and accidental procedures are, in fact, likely to bring defeat to the whole movement. A well-planned and consciously directed program or "standardizing process" should be developed, and this technique, together with the standard supply articles which result from it, should be controlled and evaluated in the light of certain criteria or general concepts. These concepts derive their validity from the broad, comprehensive view of the school as an integrated activity of instruction and learning on the one hand, and sound business management on the other, with the added qualification that real efficiency in the one is, in a measure, both the cause and result of real efficiency in the other. Such criteria should, in the main, operate against a narrow and rigid standardization of supplies on the part of those who control the school's purse strings and think economy only in terms of dollars and cents — an economy purchased very often at the expense of instructional results. Also, such criteria should make for an awareness, on the part of those charged with instruction, of the significance of materials used and result gained in terms of business economy. Such criteria should serve further to integrate and correlate the work of these two seemingly unrelated aspects of educational activity, and to develop an appreciation and understanding of each in terms of the other.

In view, then, of the importance of the problem of supply standards and standardization, and of the factors which enter to complicate the process and to influence results, the following criteria are suggested for guidance and control in the development of a technique and for the evaluation of the standard supply products:

I. Utility

The criterion of utility implies that all members of the school staff — teachers, supervisors, principals, superintendent, and business manager — coöperate and participate in the development of a standardizing technique. The experience of each should be sought and used for the perfection of the technique, and the technique, once established, should be continually and consistently used in the determination of supply standards.

The standards for purchase and the standards for utilization thus determined should lend themselves to actual use. Standards of purchase embodied in a standard descriptive supply list should be of service in selecting, requisitioning, purchasing, and distributing instructional supplies. Teachers, supervisors, and principals should select supply articles with a view to the purpose for which they will be used and in accord with the specifications set forth in the

(Continued on Page 75)

School-Business Officials' Association Attains Its Majority

Twenty-first Annual Meeting in Los Angeles a Success

The National Association of Public-School Business Officials attained its majority at a convention that will long be remembered for a constructive program, for the completion of the Association's first three major research undertakings, for unequaled hospitality, and for the unfortunate absence of practically all the old leaders. The meeting at Los Angeles, May 24 to 27, 1932, was proof positive that the business managers, secretaries, school-plant superintendents, purchasing men, and accountants are contributing a full measure of professional service to the solution of present difficult problems in school administration, that they are keenly aware of the long-term evil results which will follow panicky "economy" and unwise retrenchment, and that they are fighting side by side with school boards and superintendents to effect all needful adjustments in budgeting, taxation, purchasing, building construction, and building operation and maintenance. Mr. W. E. Record more than made good his promise of a year ago to show the Association an efficiently organized and smoothly functioning school-business department as well as a group of notable new school buildings. Hotel, meeting-hall, and exhibit-room accommodations were practically ideal, and the Decker-Mount-Huston convention management was flawless.

The Program

President W. N. Decker, who handled the several sessions with the dispatch and thoughtful attention to detail that is possible only in an experienced school-board secretary, built the program under difficulties that would have dismayed another man. It was notable that each session provided at least one outstanding paper, and that there was a good balance as between "experience and achievement" papers and discussions of fundamental conditions and principles. Throughout the four days the keynote of practically every paper was adjustment of business affairs of school systems without reduction in the efficiency of the essential educational services. In many of the papers there were frank criticisms of standards and practices, free acknowledgments of past mistakes, and a spirit of open-minded readiness to make full adjustments to income. That the Association is determined to professionalize the work and the positions of its members was reflected in President Decker's address:

"Looking forward I prophesy unhesitatingly that the National Association of Public-School Business Officials is destined to occupy a place of increasing importance in the educational work of the United States and Canada. When the opportunity came to me twelve years ago to transfer from the instructional field of education to the work of business administration, I made the transfer with the thought that this was a field of adventure with great promise; not great promise in pecuniary remuneration, but great promise of opportunity for most distinctive and worth-while service.

"My observation was that the comparatively few men of that time, even so recent as twelve years ago, who were engaged in school-business administration, were probably well qualified with business training and experience but with limited professional training generally. I believe that a profession of school-business administration can be established and is being established, and I propose to use the remaining years of my active life in helping to develop this profession. Without raising the question of whether school superintendents are qualified or not qualified to administer the affairs of school-business administration, it can hardly be a matter of argument that, with the complexity of duties devolving upon a school superintendent of any district, large or small, he cannot devote to the matters of school-business administration enough of his time to attend to the business affairs of the district in any degree of satisfaction or completeness. Specially trained men in school-business administration are needed throughout the country, just as specially trained men or women are needed in the vocational field or the household arts or the fine arts or in physical education or music, or in every other line of educational work.

"We, the members of this Association, should qualify ourselves in every way possible to fill this first-mentioned need, and I believe that we are doing this. I believe, furthermore, that there is no other organization on the American Continent that is doing so much to foster this professional training in school-business administration as the National Association of Public-School Business Officials is doing. Our Association will not meet the requirement, however, by simply meeting once a year in annual convention. . . . Our Association must be a going concern and must keep going throughout the year. . . .

"Our officers should work throughout the year. Our committees should function continuously and not for the Convention only. A liberal appropriation should be allowed each year for the payment of expenses of research work, and the labors of these research committees should be made available to the educational world through published bulletins that can be circulated cheaply. . . ."

Building Construction

Shall new school buildings be erected under the "general contract" plan or is it wise for boards of education to so draw up its specifications and outline its building program that separate contracts may be awarded for each of the divisions of the work? Mr. Ira W. Coburn, president of the San Francisco board of education and a contractor of large experience, argued earnestly for the former method. He said, "But there has arisen — and I believe it probably applies to all sections of our country — a very serious question that, until terms are more clearly defined, will probably be an irritating one for some time to come. That is, should schools be constructed under a general contract, or should they be contracted for under a segregated form of contract? Volumes have been written by both sides on this question. A general contract means entering into a building operation with a single construction agency whereby that company agrees to deliver to the school board the particular structure wholly completed in accordance with plans, specifications and contract and to the satisfaction of the architect and board of education. The outstanding features of a general contract in comparison with other methods, are centralized control according to well-organized methods, proper timing of installation by the various subcontracting organizations, and the delivery of fixtures and materials so that proper and orderly coördination of all groups will be most economically and efficiently accomplished. In order to organize under the general system, the contractor must employ a competent superintendent with sufficient experience and technical training thoroughly to understand all the instruments of service — such as plans, specifications, contract — who is also capable of setting up in the field, all measurements, elevations, lines, and positions of all fixtures, and of passing on all work in the roughing-in so as to be accurate for the reception of all types of plumbing, electric, heating fixtures when they are to be installed.

"The separate contract is almost the reverse of a genuine contract. Under the separate contract the owner or his representative must assume the entire responsibility assumed by the general contractor as the owner enters into a number of independent contracts for the construction of the component parts of the project. No contractual relations exist between the various contractors, and, generally speaking, each is an agent of the owner or each is an original contractor, acting independently as contractor for the construction of his particular part of the work. The method of coördinating the work on the building requires a general superintendent who must perform the work for the owner and represent him as would a superintendent working for a general contractor. In some cases certain parts are let to those who operate as subcontractors and a major portion awarded to a principal contractor. The separate contract plan is subjected to the same reasoning as is the complete segregation, the difference being only a matter of degree.

"When a general contractor efficiently functions, he finances the work during construction, installs various parts of the building himself and properly organizes the functions of the various subcontractors working on the building so that the entire building is completed at one time according to contract in a proper and workmanlike manner. Under this method the general contractor can be held responsible for delay when properly made liable, guaranteeing the cost of the structure not to exceed his price, carrying workmen and public liability insurance, fire, theft, and many other contingencies that may arise in the construction of a school building."

In opposition to Mr. Coburn's arguments, Mr. George F. Womrath described the plan which has been successfully used under his direction by the Minneapolis schools. The specifications for new Minneapolis school buildings are drawn up in exact detail as the result of experience. As an essential part of his agreement each of the 8 or 12 contractors for a new building must meet with the architect within a day after the contract is signed and agree to abide by a progress schedule which is then made up. This schedule is adopted with binding force by the architect and the school board only after it is accepted in writing by all the contractors.

DELEGATES AND GUESTS OF THE 21ST ANNUAL CONVENTION OF THE NATIONAL ASSOCIATION OF PUBLIC-SCHOOL BUSINESS OFFICIALS AT LOS ANGELES, CALIFORNIA

During the progress of the work the contractors meet biweekly with the architect, the business manager, and the building superintendent. Problems concerning deliveries of materials and completion of work are settled, a premium is paid by the board of education for days saved and liquidated damages are collected for delays. Competent superintendents for each branch of work have been found economical for the board of education and a protection for the contractors. The plan has worked smoothly and has resulted in greatly shortened construction periods.

New Materials and Methods

At the same session Mr. A. B. Cousins, of Richmond, Va., discussed roof and floor constructions, especially from the standpoint of avoiding failures. A paper prepared by Mr. Ernest Sibley, architect, Palisade, N. J., and read in his absence, noted new materials and devices in schoolhouse construction and permanent equipment. Mr. Charles E. Lane, business manager, Quincy, Ill., discussed in a helpful paper the principles which must be observed to balance the design, construction, and equipment of school buildings to achieve maximum educational efficiency and ultimate economy. He drew heavily on a recent experience in developing an extensive building program.

Dr. Andrew P. Hill, Chief of the Division of Schoolhouse Planning of the California State Department of Education, provided the high spot of the session in a thoughtful discussion of practical methods for carrying on schoolbuilding programs during the depression. The problem of economy in schoolhouse planning and construction, he said, must be defined not in terms of immediate money savings but in adjustments to educational needs and fundamentally essential educational programs. There is no economy in building cuts which destroy the educational service of buildings, e.g., by eliminating the library, cutting down janitors' closets, minimizing the administrative unit. The so-called double use of rooms is frequently a delusion as an economy or instructional makeshift. The stage gymnasiums are typical of waste. Unit construction, too, is a detriment to school buildings because it hampers the logical development of laboratories, shops, activities rooms, and interferes with desirable informality in classrooms. No community can expect to achieve true economy in school construction without taking at least four steps: (1) a survey and the development of a long-term building program based on a carefully considered educational program; (2) the adoption of an economical daily schedule; (3) carefully revised preliminary studies of each project, with well-considered suggestions to the architect; (4) the employment of a competent and experienced architect. In discussing the selection of materials, Mr. Hill urged the careful balance of the specifications to insure the use of local materials and labor skills for ultimate economy. "We cannot know how effective modern education is until we have effective modern schoolhousing."

Wednesday's Program

That the manufacturers and distributors of school equipment and supplies are keenly alive to the social and civic responsibility which they have was made clear in a discussion of business ethics on Wednesday morning. Mr. Walter S. Hilliard of the Hilliard Chemical Company presented a comprehensive code of ethics adopted by the exhibitors and showed how the schools may protect themselves against inferior goods and unsafe dealers:

"First, establish standards for specified supplies, equipment, and building materials. Make use of all possible testing services. These may be the United States Government Bureau of Standards, Underwriters' Laboratory, commercial testing laboratories, or manufacturers' association standards. Recommendation from these sources may not always be applicable to the school, but will form something of a guide to purchasers. Get financial reports from commercial agencies. Demand guarantees and see that they protect the school on both installations and service, and be sure that the manufacturer or contractor is both financially sound and responsible, so that if trouble develops he will be able to repair or replace the worn-out equipment. Whenever practicable demand a full-sized sample or a demonstration. When impossible to submit samples, demand instances of installations that have survived service and also investigate them.

"The school district's financial resources and satisfactory service must be protected against the economic waste that naturally follows the purchasing of supplies or building materials of inferior quality.

"In the selection and purchasing of building materials and equipment which are permanently installed, great care should be exercised. Here not only will the unsatisfactory item have to be replaced, but many parts of the structure may have to be removed and redesigned before the new equipment can be accommodated. More than ever will the reputation of the manufacturer and contractor have to be considered and a history of satisfactory performance shown. To buy cheap materials means to court disaster, but to buy service at a fair price means efficient and real saving.

"If bids are taken on a competitive basis and an 'or equal' clause is included in the specifications, be sure that the substituted material really is equal. Tests, such as are made by the Underwriters' Laboratory and United States Bureau of Standards, and inquiries into performance, will provide a guide to the desirability of accepting such materials.

"There has been a tendency on the part of some of the larger companies to refuse to estimate under a competitive system because best results cannot be obtained. There are many ways to combat shoddy and unsatisfactory work, and this is one solution. In competitive bidding when the lowest price is accepted, regardless of the responsibility of the concern, it is impossible to obtain desired results. In the present chaos of price decline and readjustment it is extremely difficult to determine which figure is based on good workmanship and material. This means that a careful analysis of all factors is needed now more than ever before. Judgment must be based on past performance, financial responsibility, and the integrity of the manufacturer."

Considerable interest was aroused by Mr. A. C. Lamb of Hamtramck, Mich., in his description of the procedure used in planning the Copernicus Junior High School of Hamtramck. The development of this building resulted from careful study of every detail from the first formulation of educational theory to the completion of the final wall decorations.

W. E. RECORD
President of the N. A. P. S. B. O. for 1932–1933

Management in Administration

Dr. Vierling Kersey in a vigorous address analyzed the management of education in the light of present economic conditions and recent growth in management as an aspect of school administration. He argued strongly for better public relations, for closer integration of business management of schools with educational management. He suggested the following three points as basic in a code of ethics for school-business management:

1. Business management is a phase of general educational administration.
2. Objective of business management must be identical with proper educational objectives.
3. Efficiency and economy are to be goals of business management as a phase of educational administration. Efficiency to be measured in terms of contributions to achievement of educational objectives — economy to be measured in terms of social and economic costs and educational results.

His suggestions for basic principles to be observed were summarized as follows:

1. Educational and business management are synonymous.
2. Educational business management and educators must do more than coöperate. They must absolutely unify and correlate all management activities.
3. There must be developed out of this unity a national concept of business management in education.
4. Business management in education, which has so frequently depended upon "the man," must now develop a system of educational business management.
5. All phases of educational activity permit of management relationships. Management as a function of educational administration must be scientific as is education.

Budgets and Finance Discussed

Clear thinking and a keen appreciation of school needs were reflected in the paper of Mr. H. H. Baskerville, president of the Los Angeles board of education, on "School Accounting and Budget Building." The problem of all boards of education, as Mr. Baskerville views it, is to adjust the schools to the public purse without deviating in any way from achieving the true purposes of American education. The present is essentially a time for reconsidering practices, precedents, and developments in the light of sound principles, of eliminating waste, of consolidating and integrating activities and departments, and of freely reëxamining all work.

Mr. Roland A. Vandegrift, director of finance for the State of California, provided a type of address that would have been impossible in normal times. In reporting on the purposes, present status, and current studies of the National Survey of School Finance, Mr. Vandegrift bluntly stated that educational expenditures are not sanctified but must stand the test of necessity and efficiency to which all governmental outlays must be submitted in these times. In the minds of some of the experts, he indicated, there is a need for questioning some of the present theories and practices under which education has continued to increase in cost and to consume a continually larger percentage of all public funds. Immediately valuable results should be achieved, the speaker made clear, from the studies which are being pushed in gathering and analyzing fundamental facts.

The effects of the economic depression upon education are good in many respects, according to Dr. Rufus von Klein Smid, president of the University of Southern California, who was the main speaker at the annual banquet. At least educators and citizens are returning to the consideration of correct underlying princi-

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Making the Class Schedule in the Smaller High School

H. H. Foster, Professor of Education, Beloit College

The Problem

High-school administration is becoming scientific. The age-old trial-and-error procedures are giving way to techniques based upon established principles; not alone because these newer techniques produce better results, but also because they produce them with a minimum of labor. The author's experience in observing and teaching high-school administration has shown him that most principals of small or medium-sized schools undertake schedulemaking without very adequate conceptions of the merits which a schedule should possess, and with a technique little if any better than a cut-and-try mosaic procedure. In too many cases, the existence of such merits and the possibility of such technique are not realized. The bright side of the picture is the readiness with which light upon the problem is welcomed when that light emanates from a knowledge of the practical needs and limitations of the smaller school, and illuminates the problem with concrete illustration rather than mere generalization. To do just these things is the undertaking in the present article. The techniques proposed by Richardson, Harrington, and Puckett,[1] while valuable in the larger institution, are found too complicated to serve in the small or medium-sized school. Our present attempt is to show a technique that is simple and at the same time adequate, while suited to the small institution.[2]

Principles of Schedulemaking

Three principles are proposed, which are so simple of interpretation and obvious of validity as to occasion but little discussion.

1. *Schedulemaking should be based upon known pupil needs and teaching possibilities.* This implies the preliminary determination of what courses pupils wish to pursue, not only collectively but also individually. It means that before a schedule can be made, the pupils are to enroll for their various desired courses, and, normally, this would occur insofar as possible before the close of the preceding semester. Upon the basis of the information thus secured, the layout is made possible, including the determination of size of classes, sectioning, and employment of teachers according to the disclosed needs. On the other hand, enrollment in specific classes or sections must be upon the basis of a completed schedule, occasionally with readjustments when a schedule wholly free from conflicts has proved impossible. Similarly, a survey must be made of the work to be expected from the teachers and the availability of schoolrooms and equipment. Thus, the order is as follows: subject enrollment, schedulemaking, class enrollment. In some larger schools, schedules are fixed, remaining practically unchanged from year to year. For such, the technique described is equally serviceable if conflicts *normally to be anticipated* be made basal instead of *actual* conflicts.

2. *Procedure shall be from the inflexible to the flexible.* This means that situations that admit of no choice must be provided for before those that admit of choice. For example, when the Latin class is taught in one section only, and the English in two, the schedulemaker must find a place for the former before placing the latter, since the pupil seeking Latin has no choice but must take his Latin at the one appointed hour, whereas his English allows flexibility through the use of two sections to choose between according to needs.

3. *Procedure shall be from the nonadjustable to the adjustable.* Adjustment here refers especially to the pupil's deferring of the unavailable subject for a year or semester and the immediate substitution of another. It might also be taken to cover the case of the required subject taking precedence over the elective. Obviously, the senior's courses tend to come under the nonadjustable, and the under-classman's under the adjustable, with the implication that the former should be placed in the schedule before the placement of the latter is undertaken.

The procedure suggested in the following paragraphs is essentially the application of these three principles.

The Steps in Schedulemaking

Step 1. Prepare the layout for the schedule. Under this are included the length of the school day, the number and length of class periods, the type of provision to be made for irregular and special activities; and the times for opening and closing of school and the passing of classes. The layout includes the factors of personnel and plant, in the determination of just what classes are to be taught and by what instructors, what classes are to be sectioned and the number of sections, and what rooms are available at each of the periods, with the special limitations to which their use is subject (size, equipment, etc.).

The illustrative case which is described below is introduced to show the application of the technique where several classes are divided into sections and where double periods are used for laboratory and similar work. It represents the case of a medium-sized senior high school. In cases of small high schools where classes are not sectioned, or of schools where double periods are not used, the procedure would obviously be much simplified. In such, the references to sectioning, double periods, etc., would simply be ignored.

The layout is as follows: The school enrolls 150 pupils in Grade I, 120 in Grade II, and 85 in Grade III. The program of studies is as follows, with certain restrictions of election which will be indicated in Figure 2. The figure in parenthesis after each subject indicates the number of sections to be provided for.

GRADE I. Required: Mathematics 1 (5), English 1 (5), Biology 1 (5, with 9 laboratory sections)
Electives — one: Latin 1 (4), History 1 (3), Bookkeeping 1 (3), Music (2 — no credit)

GRADE II. Required: English 2 (4)
Electives — three: Physics 2 (2), Latin 2 (2), Mathematics 2 (1), French 2 (2), Spanish 2 (1), History 2 (2), Manual Training 2 (2), Typewriting 2 (2), Commercial Arithmetic 2 (2), Agriculture 2 (2), Home Economics 2 (2), Music 2 — no credit)

GRADE III. Required: History 3 (3), English 3 (3), or English 3s (1)
Electives — two: Mathematics 3 (1), French 3 (1), Spanish 3 (1), Latin 3 (1), Chemistry 3 (2), Stenography 3 (1), Typewriting 3 (1), Home Economics 3 (2), Music (2 — no credit). (English 3s is especially for commercial pupils.)

All subjects are taught five periods a week except biology, physics, chemistry, agriculture, and home economics, which require three single and two double periods, and bookkeeping, stenography, typewriting, and manual training, which require five double periods. Biology laboratory sections are limited to 18 pupils. The school day includes four morning and three afternoon periods, of about 45 minutes each.

There are the following rooms, available at every period:

Seven typical classrooms
One biology classroom, adapted to use as laboratory also
One biology classroom
One physics and chemistry classroom
One physics laboratory
One chemistry laboratory
One manual-training workshop
One agriculture classroom and laboratory
One home-economics classroom and laboratory
Two stenography and bookkeeping rooms, one adjoining the typewriting room with glass partition, permitting of supervision of typing in the latter
One typewriting room
One study hall, adequate for 100 pupils
Assembly, gymnasium, library, etc.

The teaching staff includes the teachers listed below, all being available at all hours of the day, though it is undesirable for K, L, and P to teach the last hour of the day. Each is supposed to teach the number of sections indicated, though it may prove desirable to change the number of sections assigned any particular teacher so long as the total number of sections and the teaching load are left unchanged. The teaching load is to approach but not exceed 25 hours a week, though laboratory is not rated as the equivalent of class recitation in determining load.

Teacher A. English 1 (3 sections), English 2 (2)
Teacher B. English 1 (2), English 2 (2), English 3s (1)
Teacher C. English 3 (3), Latin 2 (2)
Teacher D. Latin 1 (4), Latin 3 (1)
Teacher E. French 2 (2), French 3 (1), Spanish 2 (1), Spanish 3 (1)
Teacher F. History 2 (2), History 3 (3)
Teacher G. History 1 (3), Commercial Arithmetic 2 (2)
Teacher H. Mathematics 1 (3), Mathematics 2 (1), Mathematics 3 (1)
Teacher I. Mathematics 1 (2) Chemistry 3 (2)
Teacher J. Biology 1 (4)
Teacher K. Biology 1 (1), assist in Biology laboratory, girls' athletics
Teacher L. Physics 2 (2), Agriculture 2 (2)
Teacher M. Home Economics 2 (2), Home Economics 3 (2)
Teacher N. Bookkeeping 1 (3)
Teacher O. Typewriting 2 (2), Typewriting 3 (1), Stenography 3 (1)
Teacher P. Manual Training 2 (2), boys' athletics
Teacher Q. Music (2), Library, Assembly

Step 2. Prepare class-conflict cards, one for each class, including one for each laboratory, shop, or gymnasium class, as well as one for each section of any class divided into sections. A suitable size for the card is 2½ by 3 in. For a small high school wherein no class is sectioned (not the case under consideration here), two typical cards are shown here.

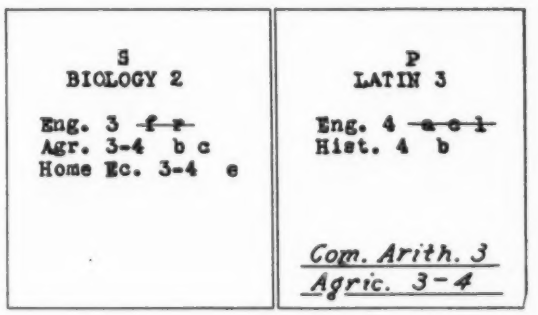


FIG. 1

The cards are prepared as follows: In this case, the BIOLOGY card is headed "S" to indicate that the class is taught by Mr. S. The

[1] Richardson, *Making a High School Program* (World Book Company, 1921); Harrington, *Program Making for Junior High Schools* (The Macmillan Co., 1930); Puckett, *Making a High School Schedule of Recitations* (Longmans, Green & Co., 1931).

[2] The procedure upon which this article is based is that described in the author's *High School Administration*.

figure 2 means that it is a second-year subject. Similarly, the LATIN 3 (a third-year subject) is taught by Mr. P. After cards for all classes have been prepared, the schedulemaker (or his clerk) scans the enrollment of all the pupils, seeking irregular combinations; that is, cases of pupils taking subjects outside of their grade, such as a second-year pupil taking first-year Latin. Assuming that he finds a pupil named Ford taking Biology 2 and English 3, he thereupon writes upon the BIOLOGY 2 card "Eng. 3 f," which means that some pupil whose initial is "F" has enrolled for both Biology 2 and English 3. (The initial is useful in case he later wishes to know *who* had that conflict, should an adjustment prove necessary.) At the same time, he writes on the ENGLISH 3 card "Biol.

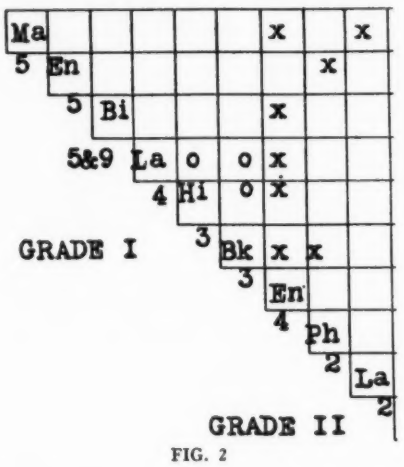


FIG. 2

2 f." Thus every irregular registration is noted upon the *two* cards involved. Later he finds a pupil named Ross with the same combination, so adds "r" on both cards. Later he finds some other pupil with the same combination; whereupon he concludes that three pupils are too many to ask to change enrollment in order to facilitate schedulemaking, so he cancels the "f r," to indicate that the conflict must be met by the schedule, and thereafter ignores any more cases of that combination. When the cards have all been thus completed, he has before him the data to show which conflicts occur only once or twice, and can be adjusted if necessary in order to make a working schedule. Then with red pencil he adds to the LATIN 3 card "Com. Arith. 3," to remind him that these two third-year classes do *not* conflict, since no pupil is permitted to elect both; and "Latin 3" is similarly added to the COM. ARITH. 3 card. Obviously, most cards will have no red notations upon them, and many will have no black ones in the smaller school. (For convenience in printing, the red notations are here underlined.)

Experience has shown that this is a great saving of time over the tally-sheet system sometimes recommended. However, for the guidance of any who prefer to use it, we are showing a section of such a conflict chart (tally sheet) wherein each conflict is indicated by an X in the square of intersection between the line for one of the conflicting classes and the column of the other. Similarly, an O shows that the two subjects in the same grade do not conflict. Thus, on the chart, Bookkeeping 1 is seen to conflict with English 2, Physics 2, and Manual Training 2. Latin 3 conflicts with History 2, but the O's show that it clears English 3s, Stenography 3, and Typewriting 3. (On the chart, the number of sections in each class is indicated by the figure under the initials of the subject.) By making the squares large enough, it is possible to substitute for the X's the initials of students having the conflicts, instead of putting them directly on the conflict cards. If desired, the initials of seniors can be written in capitals, the others in small letters, so that preference can be given to the conflicts of seniors in making necessary adjustments. Class-conflict cards can then be made from this conflict chart. In so doing, when a class is taught in sections, place on the card below the title the number of such sections. If it meets less than three times a week, indicate the fact. Also, letter each section. Indicate laboratory cards by a LAB. after the title. Thus, since Physics 2 is in two sections, with laboratory in two sections, the recitation occurring three days a week and the laboratory two days, the cards would be as follows:

B	C	h
J	j	L

FIG. 3

L	L
PHYSICS 2a 2s 3 days Eng 1 Bkkg 1 Hist 3 Eng 3 H Ec 3	PHYSICS 2b 2s 3 days Eng 1 Bkkg 1 Hist 3 Eng 3 H Ec 3
L	**L**
PHYSICS 2a Lab 2s 2 days Eng 1 Bkkg 1 Hist 3 Eng 3 H Ec 3	PHYSICS 2b Lab 2s 2 days Eng 1 Bkkg 1 Hist 3 Eng 3 H Ec 3

FIG. 4

The activities up to this point have been essentially those of preparation. The actual work of schedulemaking starts with Step 3, described in the second part of this article.

Modernizing the Lighting of the School Stage at Small Expense

A. L. Powell, E.E., New York, N. Y.

Almost every progressive school has a dramatic or music club which during the school year stages performances of various types. The construction of scenery and properties constitutes an interesting project for the art and manual-training departments. The acting is a valuable element of the work of the department of speech, and the singing gives the music department an opportunity of putting its teaching into practice. This activity creates much interest on the part of the students as well as the community. In more remotely located towns the school productions constitute their only dramatic fare. Many very excellent productions have resulted through this channel and the standard of production is constantly rising.

Long and conscientious observation on the part of the writer has indicated that in the great majority of cases those responsible for the production are very seriously handicapped through the lack of adequate lighting equipment.

Until one has had considerable practical experience in the operation of stage-lighting equipment and fully appreciates the real requirements, he is very likely not to give proper weight to the relative importance of various instruments. Generally speaking, the architect specifies the stage-lighting equipment which is installed when the building is erected, and one cannot expect even the best-informed architect, unless he specializes in schoolwork, with his multitude of problems to be a specialist on such a question as this. The mistakes he makes are merely a result of inadequate knowledge of the requirements, or bad advice from so-called experts.

Adjusting Equipment to Needs

There are innumerable instances where an adequate amount of money was appropriated for the project, yet having nothing definite to guide them, those having the matter in charge have not secured the most for their money. There is a tendency to purchase an expensive, elaborate, inflexible switchboard and a certain amount of permanently installed apparatus, borders and foots, and leave nothing available for the most important pieces of portable apparatus, such as spots, floods, strips, etc. The money is gone and those who have to operate the installation are decidedly handicapped.

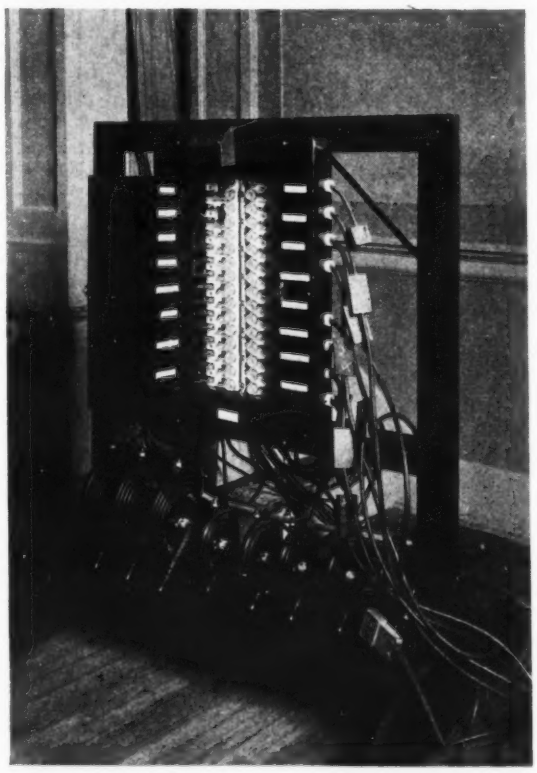


FIG. 1

View of portable flexible switchboard used at Glen Ridge, N. J., High School. This shows the type of cable and connectors used for the various pieces of lighting apparatus, the well-shaded pilot light at the top of the board, and the signalling system to communicate with the backstage crew.

In one modern high-school auditorium where the writer has done much work in staging shows, the board of education appropriated plenty of money to secure complete working equipment. Some high-pressure salesman evidently was on the job and sold a most expensive preset remote-control switchboard. This is very splendid, but it took the larger portion of the appropriation. As a result, the permanent lighting equipment, borders and foots, were the least expensive that could be found, of an old-fashioned, inefficient type which would not permit adequate color variation; and not a single piece of portable apparatus was purchased.

This condition is so prevalent that there have been prepared a series of suggested expenditures of different budgets based on experience. These appear in a book on stage lighting recently published.[1]

The foregoing discussion applies to a great degree to the new school, but unfortunately the majority of schools are already in operation and the real problem is to revamp or add to

[1] *Lighting for the Non-Professional Stage Production*, by A. L. Powell and A. Rodgers (New York: Krieger Publications, 215 Fourth Avenue).

existing installations to make them more useful. Each situation is, of course, unique, but it is believed that the method of approach outlined in detail below will be of service in enabling school organizations to obtain the maximum effectiveness from their lighting at minimum cost.

Modernizing an Equipment

The high-school building at Glen Ridge, New Jersey, was erected more than twenty years ago. Initially it had a small stage approximately 10 feet deep, framed by the conventional proscenium arch. It was soon found that the stage floor space was entirely inadequate, so an apron was built out into the auditorium, extending beyond the curtain line some 8 or 10 feet.

The permanent lighting equipment consisted of a row of lamps and reflectors on three circuits behind the proscenium arch. In the normal course of events, most of the action naturally took place on the apron in front of the arch. The lights mentioned were of practically no value for they were behind the actors and merely lighted the scenery. For a character to be visible to the audience he must be lighted from overhead and in front. Light back of him does no good whatever.

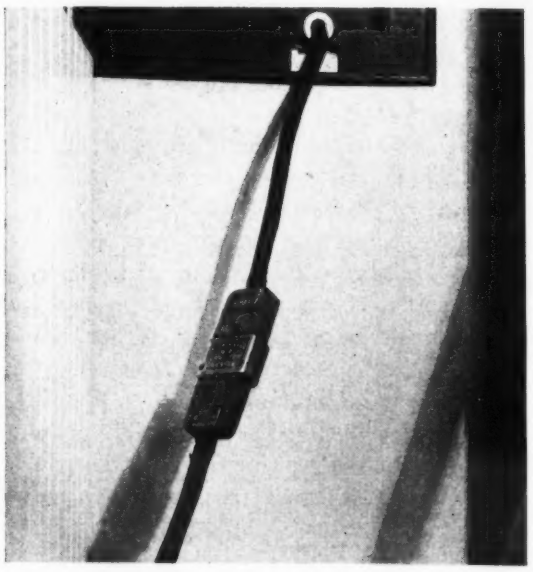


FIG. 2.
Close-up view of 60-ampere connector for attaching portable board to electric supply.

Through the coöperation of the board of education, the boys of the various school organizations, and the writer, a very satisfactory lighting system was installed at an absolute minimum of expense. All construction work was done by the school organizations and material cost was the only expense. The present installation is entirely adequate, has the maximum flexibility, and is comparable to that used for any of the less pretentious Broadway shows.

Supporting Lighting Equipment

In order to obtain light from overhead a rectangular steel-pipe framework, cross braced in the center, was made up of 1¼-in. pipe. This was 30 feet long by 2 feet wide. From beams in the attic overhead 6 lengths of wire tiller rope were dropped to suspend the framework above the front edge of the apron. To prevent swaying, a length of pipe was extended from each edge of the framework and fastened to the proscenium arch by a standard floor flange.

To conceal the lighting instruments from the view of the audience, a valance 2 feet in depth was made of monk's cloth in its natural light-tan finish. This was evenly shirred, as indicated, and tacked to a 1 by 2-in. wooden strip which, in turn, was held to the front pipe of the framework by pipe straps.

The Switchboard

The original switchboard was a simple panel box, with fuses and standard tumbler switches

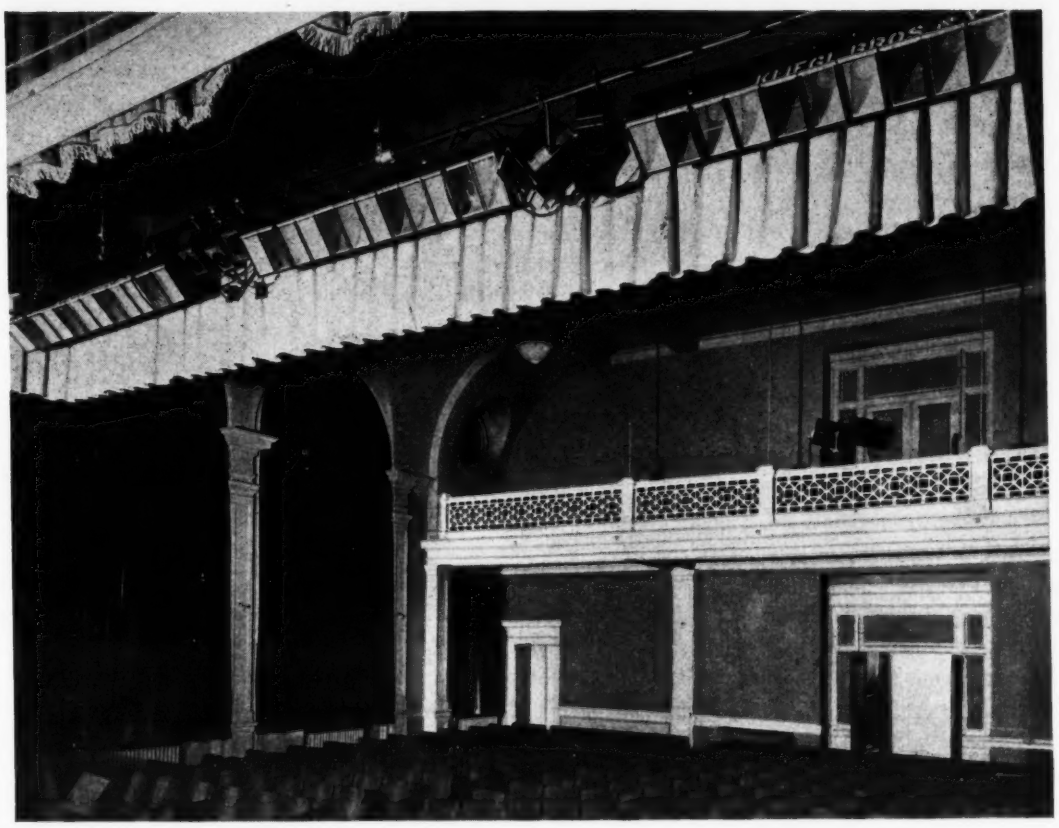


FIG. 3
General view of front stage lighting instruments showing supporting framework, Monk's cloth valance, three sections of border light, four baby spot lamps, and one standard spot lamp. A 2,000-watt spot lamp on stand will be noted in the balcony.

which made a distinct click every time they were operated. (This is most disconcerting during a performance.) There were no dimmers of any sort. Obviously, this was entirely inadequate and was retained merely to control the auditorium lights. A portable switchboard, shown in Figure 1, was constructed by the manual-training department. This consists of a standard sheet-iron box in which 8 two-circuit knife-switch fuse cut-outs are installed, mounted on a wooden stand with 8 dimmers of various capacities placed below. This switchboard is an entirely portable unit and not permanently connected save when in service. As shown in Figure 2, there is attached to one of the feeders a short length of No. 6 stage cable. This passes through a bushed opening and terminates in the female half of a standard 60-ampere stage connector. The male half of this connector is fitted with 30 feet of No. 6 stage cable which is connected to the service side of the cut-out blocks.

From the switch side of the cut-out blocks short lengths of No. 14 stage cable extend through porcelain bushings outside of the panel box and terminate in the female half of standard 15-ampere stage connectors. In the upper half of the box this connection is made direct, and in the lower half of the box the dimmers are placed in series with the connector.

From each piece of lighting apparatus a suitable length of No. 14 stage cable, terminating in the male half of a 15-ampere stage connector, is run. This arrangement gives maximum flexibility. Any lighting instrument can be put on any switch and can be connected with or without dimmers in series. With a 16-circuit board of this sort at least twice that number of stage circuits can be effectively controlled by proper plugging and intelligent operation.

Stage Lighting Devices

The three circuits of lamps behind the proscenium arch were disconnected from the old switchboard and connected to stage cable and plugs and thus became a second or rear 3-circuit border.

Three 6-ft. sections of 3-circuit compartment-type border lights were purchased and suspended by chains from the pipe framework mentioned in the foregoing, as shown in Figure 3. Two 8-ft. sections of 2-circuit compartment-type portable footlights, as shown in Figure 4, were obtained. Spot lamps and other pieces of portable apparatus, as given in the detailed list, were secured and clamped, as indicated in Figure 3, where needed.

Detailed List of Material

Supporting Framework

4 15-ft. lengths, 1¼-in. pipe
3 2-ft. lengths, 1¼-in. pipe
2 6-ft. lengths, 1¼-in. pipe
2 1¼-in. elbows
4 1¼-in. tees
2 1¼-in. floor flanges
100 feet, ¼-in. wire tiller rope
42 feet, 1 by 2 boards
25 yds. Monk's cloth, ¾ yd. wide
12 1¼-in. pipe straps
Necessary screws, etc.

Switchboard and Wiring

1 16-circuit gutter-type cabinet, complete with door and gutter frame (No. 918 Columbia Type PSG)
8 2-wire double-branch combination switches and cut-outs, vertical mains (G. E. Cat. No. 42423)
25 clamp bushings (Federal A-3)
1 clamp bushing (Federal A-1)
30 ft. No. 6 two-wire stage cable
500 ft. No. 14 two-wire stage cable
50 15-ampere fuse plugs
24 2-pole, 15-ampere connectors (Kliegl No. 955)
1 60-ampere, 2-pole connector (Kliegl No. 957-N)
3 1100-watt round plate dimmers (Kliegl No. 1236)
3 660-watt round plate dimmers (Kliegl No. 1234)
2 330-watt round plate dimmers (Kliegl No. 1232)
Necessary lumber for framework.

Lighting Apparatus

3 6-ft. section compartment-type border lights, wired for three circuits, color-screen holders for each compartment, complete with connectors (Kliegl No. 612).
2 8-ft. section portable compartment-type footlights, wired for two circuits (Kliegl No. 627).
5 Suspension-type baby spot lamps, 4½-in. lens with pipe clamp (Kliegl No. 53-E).
1 Standard suspension-type spot lamp, 5-in. lens with pipe clamp (Kliegl No. 70).
1 Long-range balcony spot, 8-in. lens mounted on stand (Kliegl No. 8-N).
1 Open box flood light mounted on stand (Kliegl No. 1-N).
2 Open box flood lights suspension type with pipe clamp (Kliegl No. 541).
24 Sheets, colored gelatin
11 Extra color frames

Supply of Mazda lamps for above instruments, viz.:

1 2000-watt spotlight
1 1000-watt spotlight

(Concluded on Page 78)

THE AMERICAN
School Board Journal
EDITORS:
WM. GEO. BRUCE WM. C. BRUCE

Democracy in School Administration

THE modern board of education as exemplified throughout the United States is a democratic institution. It fits admirably into the scheme of government to which the nation is committed. Its utility has been subjected to the test of time. The strength and splendor of the system of popular education which has been reared attests to the merits of the administrative structure which has been devised.

If the school system is devised to train for citizenship in a democracy, it follows, too, that the administrative machinery itself must be built and operated upon democratic lines. The whole structure must breathe the spirit which has given momentum and stability to a great nation — and for whose perpetuity and well-being it exists and serves.

The board of education, as the central administrative body, derives its powers through popular suffrage. Its duties and responsibilities are defined by law. The public delegates authority but it also exacts responsibility. Likewise the board of education must intrust the operating details of a school system to the professional factors, but it must exact results which are in harmony with the objectives of the schools as such.

"It is understood that an administrative officer may delegate authority, but it is also understood that he cannot delegate final responsibility," recently wrote Assistant Supt. John Granrud, of Springfield, Massachusetts. He discusses this thought further by saying:

"The executive may seek counsel and advice of any number of men on a given problem, but the decision is his and his actions are his own individual responsibility. A superintendent may delegate authority to a principal, but he will be held personally responsible for the protection of the interests of the people and the satisfactory conduct of the activities of the school. A principal may delegate authority to a teacher, but if the teacher fails to secure discipline, the principal will be held accountable. An administrator is compelled to require satisfactory results from those to whom authority is delegated. There is an obligation to command as well as to obey."

In discussing the principle of delegated authority, Mr. Granrud wisely observes: "There are two types of persons to whom this principle cannot apply: It is useless to delegate authority to a person who is inefficient, who can never get things done; and it is useless to delegate authority to that person who cannot get along with others and who will not act in the interests of all and in the interests of the educational program. These persons feel that each is for himself, that every situation is so unique and so unusual that it cannot be solved in accordance with accepted standards. Those who practice it are the enemies of coöperation. They would rather be different than right. Because their decisions are the decisions of lonely minds, arrived at without consideration of the experience of others, they are likely to be changeable and faddish. When unrestrained, such extreme individualism and ungoverned initiative destroy all harmony of action."

While all delegated authority springs from the board of education, as the central administrative body, it is also that body which is directly responsible to the citizenship. Therefore its policies must contemplate such adjustments, and the delegation of such authority, as may encourage individualization and at the same time weld the several factors into a unified structure that will operate smoothly and efficiently.

At What Age Shall Teachers Be Retired?

WITH the introduction of a pension system, more popularly called a teachers' retirement compensation, the controversy which usually attends the retirement of an aged teacher has been largely allayed. The age limit is fixed and the school authorities as a matter of course, as well as those immediately concerned abide by its terms.

It does not follow, however, that either the public or the aged teacher agrees in every instance to the compulsory retirement plan because of age restrictions. In an Iowa city a storm of protest was recently raised when the board of education fixed an age limit which compelled the retirement of several popular instructors. The newspapers came valiantly to the front to defend the schoolmaster and schoolmistress against what they believed to be a premature retirement. One editor said: "There is no adequate defense for an age limit in public-school teaching in this country. There are no places where age limits should be arbitrarily applied in a republic. The reasons why this statement is true are obvious. People do not cross lines of efficiency with the same regularity as the sun and the tides move. If a flood tide reaches a given point at 12 m. today it will reach this same stage at 12 m. tomorrow. One individual may be 'all in' at fifty while another is going strong and fine at seventy. Why apply a tidal rule to humans? It cannot be done without grave injustice. Such a rule is un-American because it limits our freedom. We do not say you may teach as long as you are capable but only until you reach a certain age. Your freedom to serve then ends regardless of your capability and merit.

"In the matter of physical and mental strength we must all bow to the inevitable. Teachers are falling out of the ranks all along the line. Some are 'all in' at fifty, others at fifty-five, sixty, sixty-five and at intermediate points. A few are good up to seventy and beyond. The one rule that is applicable and fair to all is physical and mental fitness. Let us not in a free country try to supplant the laws of divinity. As a government let us be as fair to our school teachers as baseball managers are to their players. Keep them in the service as long as they can hit the ball effectively."

That is one side of the story, well demonstrated and ably argued. Experience has taught, however, that even the superannuated teacher is not so readily removed. A teacher that has taught for many years in a community has her friends and admirers who will come to her defense when compulsory retirement threatens. It is at times not easy to drop even an incompetent teacher.

The laws and rules which provide for compulsory retirement of teachers because of old age are not the chance action of a day. They express the judgment of school administrators who realize that the interests of the school child cannot consistently be subordinated to friendship and charity. A rule may in rare instances work a hardship or inflict an injustice, but a well-considered rule, fundamentally sound and just, will, in the main, demonstrate its beneficent effects. There can be no question as to what interest has the primary claim — that of the teacher or the child.

The Teacherage as a Public-School Utility

IN CERTAIN sections of the country the so-called teacherage, or teachers' cottage, has had careful attention and for a time promised to become a popular innovation, more particularly in connection with the consolidated school, which had sprung up in the rural districts. American architectural enterprise asserted itself in an effective and eloquent way. Well-planned and ingeniously constructed teachers' cottages were reared in rural districts and small communities where teachers were unable to secure the desired living conditions. They have served, and continue to serve, the purpose for which they were constructed.

While the practicability of the innovation was apparent and has found recognition in isolated instances, it does not appear that the idea has met with anything like general acceptance. In fact, there are instances on record which would demonstrate that there has been a decline in recent years in that type of public utility.

A case is reported at Two Harbors, Minnesota, where the board of education will dispose of its teacherage at half of its actual

value. The property was purchased at a time when it was alleged that teachers encountered difficulty in finding proper board and lodging. But with a change in conditions, plenty of persons stood ready to provide teachers with comfortable accommodations, and the teacherage became an unpopular competitor to the hotel and the rooming house.

Nor can it be said that the average teacher is willing to isolate herself from the rest of the community by taking up her abode in a teacherage with its somewhat monastic seclusion. While such seclusion does not prevent the social contacts which the teacher ordinarily seeks, and which the community welcomes, it has its restrictions and it also lifts the teacher into a somewhat exclusive atmosphere.

The teacherage idea has been carried out in Central Europe for many years. Schoolhouses are equipped, in addition to the conventional classrooms, with a series of living rooms, designed to serve as a home for the faculty. In rural districts the schoolhouse is a combination of school and home, where the schoolmaster may do his work and, at the same time, house his whole family. Even in the cities where the teacher could find accommodations the teacherage is provided.

It is a question whether the teachers' cottage will ever become popular in the United States except in the rural districts where suitable board and lodging cannot be obtained. The American teacher not only desires to be free to select the domicile best suited to his or her tastes and inclinations, but the public wants to know that such teacher is not an exclusive personage but an integral part of the social and civic life of the community.

Appointive System of School-Board Making

IN THE creation of the American board of education the elective system is universally employed throughout the United States. The refinements which have attended the system has included a change from district or ward representation to representation at large, smaller boards, a longer tenure of service, and a nonpartisan or bipartisan method of selection or election.

The appointive system, whereby the member of a board of education is chosen by a mayor and ratified by a city council, or appointed by a law court, obtains in several of the larger cities. The system has merit in that it brings into the public service a class of men and women who will not expose themselves to the turmoil and embarrassments which frequently attend the elective system.

The system, however, rests upon the judgment and integrity of the official who has the power to appoint. If he can lift himself above personal and partisan considerations and determine his appointments solely upon the basis of character and fitness the system is an avowed success. In recent years the several mayors of New York City have chosen citizens to board-of-education honors who embodied special fitness for the task intrusted to them. In Chicago the very reverse took place.

The principle of representation at large must be observed in both the elective and appointive system if the best results are to be obtained. If the highest type of citizenship is to be chosen, the question of ward lines or locality must not determine the choice. And yet there are those in every community who lay stress upon the recognition of districts and locality.

When the mayor of Chicago recently appointed two excellent citizens to the board of education an editor in the Calumet district rose to voice his protest. He held that "someone in sympathy with the great locality" in which his newspaper circulated should have been appointed.

The fact remains that if there has been any decided improvement in the selection of those who are placed in administrative charge of the schools, it has been in the elimination of ward and district lines. The member of a board of education who feels that he represents only a fraction of the school district is not as useful as is he who feels himself the guardian of an entire district. Thus representation at large rather than ward or district representation must be observed in carrying out the appointive system as well as in the elective method.

Status of the Nation's Educational Press

DURING the past three decades the educational press of the United States has undergone a number of changes. The principal among these relates to the specialization which has found expression in a wide range of subjects and the fostering of specific interests. While the studies observed in a school curriculum have their regular mediums, the list of publications devoted to the special branches of study have grown in a considerable degree.

The eighth yearbook, issued by the Education Press Association of America, enumerates the regular educational magazines devoted to the professional and administrative labors carried on in the public schools. But the list of publications devoted to such subjects as educational research, educational psychology and mental hygiene, English and social studies, mathematics and science, school libraries, character and citizenship, and the like, makes a most presentable showing. The list of publications devoted to physical education, school art and music, rural, secondary, and vocational education, and vocational guidance, has also grown in recent years.

More striking, however, are the changes which have taken place in the ownership of educational publications. Thirty years ago the ownership was largely in individual hands. Today a large number of publications serve as organs of educational organizations, state and local departments and institutions. The ownership has become collective or public.

Thus the various state teachers' associations maintain publications which advance the interests of these bodies. State departments of education publish bulletins, and local school systems issue their monthly or quarterly pamphlets. Then there is also a long list of students' publications promoting the interests of high schools and academies.

Forty years ago the so-called school journals were devoted almost wholly to the professional endeavors and particularly designed as an aid to the classroom worker. They were known as teachers' magazines. A decisive departure from that type of educational journalism was the establishment of the AMERICAN SCHOOL BOARD JOURNAL. It was the first venture into the field of school administration. Educators shook their heads and expressed doubt as to the expediency of such an enterprise, but time demonstrated the need for, and the service that could be rendered by, that kind of publication. During this period the publication has not only enjoyed complete acceptance by the school public, but has its camp followers and imitators.

On the whole, it may be said that the educational activities of the United States receive a decided stimulus through a list of publications which cover every phase of the professional and administrative service rendered to the schools throughout the country.

The Longer School Day

The program of studies and the teacher are the most fundamental agencies for the education of children. Unless the curricula offered in the several units and the objectives which embody the ideals of the teachers in the different units be well planned and articulated with the needs of children, the program of articulation will fail. The ideas and ideals of teachers may be molded, modified, and changed by the type of supervision that is given. The type of supervision offered should depend upon the supervisors themselves.—*Harrison Van Cott.*

The Better Attitude

Prof. Huges Mearns calls attention to what he considers a new spirit in education: "A new teacher is among us discovering wonders. She is less a fault finder and more a power finder. A new educational administrator is among us. He is not looking for trouble; he is looking for abilities. Wherever these two meet, the school blooms with the rich products of young life."

This new spirit is in reality age-old; it has always been the positive, constructive attitude of the good teacher and the able administrator. It has sought to use the "single talent" which was in danger of becoming buried; it has aroused the creative instinct in even the mediocre, and it has brought to full blooming the power of growth in the able and the superior child and teacher.

School Administration in Action

The Teacher Passes Judgment Upon Herself

Seattle Introduces a Self-Evaluation Plan Developed by a Committee of Elementary-School Principals

A complete plan for self-evaluation has been submitted to elementary and secondary teachers of the city of Seattle. Accompanying the outline which the teacher is to use, there is a statement of the local school policies and a suggestion concerning its use prepared by Dr. Worth McClure, superintendent of city schools. It is expected that the outline will be used both by teachers and by the principals as a means of aiding the teacher to arrive at a critical estimate of her methods of work and their effectiveness. Teachers and principals have been requested to frankly discuss the findings made by teachers and to seek specific means of improvement.

The Seattle blank uses nine five-point scales. The higher steps of each scale are not to be understood as including in greater degree all of the elements that add value to the preceding steps. "Under each heading the item that best describes the practice usually followed by the teacher will be checked by the principal and retained for the building record. Remarks may be added to supplement the printed statements. The administrative record of teaching service filed in the central office will be a summary of these ratings. Through frequent supervisory conferences each principal will let the teachers of his school know his judgment of the effectiveness of their service and will discuss opportunities for further growth."

Dr. McClure suggests that the nine scales are not of equal importance; negative qualities in some one item may impair a teacher's general effectiveness or may be relatively unimportant because of other good qualities. The total effect of the teacher's influence upon the attitude of her pupils and of her relations to the school and the community are matters of major importance.

MAJOR POINTS FOR SELF-EVALUATION

I. Classroom Management
- A. *Physical Equipment of Classroom* (light, heat, seating, etc.)
  1. ...Sensitive to needs and makes all possible adjustments.
  2. ...Generally observes proper regulations.
  3. ...Gives occasional attention.
  4. ...Attention in extreme cases.
  5. ...Disregards physical conditions.

  Remarks: .....
- B. *Organization and Classroom Atmosphere*
  1. ...Thorough organization largely self-administering; pupil motivation and participation outstanding; school spirit coöperative, courteous, and informed.
  2. ...Efficient organization conserving time and effort; show of authority rarely required; pupils actively interested in their work and readily assuming some room and building responsibilities.
  3. ...Effective formal organization; exercise of authority rarely necessary; pupils receptive and acquiescent, usually dependable when not under direct supervision.
  4. ...Teacher domination evident, attention forced; pupils passive or furtively restless.
  5. ...Distinct lack of organization and control; pupils inattentive.

  Remarks: .....

II. Teaching Technique
- A. *Class Conference Period*
  1. ...Courses of study intelligently interpreted and so followed as to develop the larger values and objectives of each subject; skillful use made of problems, projects, units of work, and other methods of approach, consideration being given both to children's experiences and the permanent values to be attained.
  2. ...Text material fully utilized and supplemented abundantly by pupil experiences and reference sources; subordinate phases of work organized as a part of larger units and developed purposefully.
  3. ...Limited to text; with considerable use of supplementary material; pupils participate freely; some effort made to relate work to experiences and social life of pupils.
  4. ...Adherence to text; unconscious of the larger aims of a subject and its social-educational values; lack of discrimination in use of textbook and supplementary material.
  5. ...Shows lack of purpose beyond the memorized recitation; little understanding of relative values of subject matter.

  Remarks: .....
- B. *Recognition of Individual Differences*
  1. ...Careful adaptation of all work to needs of pupils in class groups, in smaller groups, and as individuals within groups; pupils have accurate knowledge of their own progress and of their needs and the means of improvement.
  2. ...Ability groupings made, with modification of subject matter based on careful study of diagnostic tests; individual accomplishment records and graphs used with discrimination to motivate work of pupils.
  3. ...Ability groupings; tendency to give special help to retarded pupils only; some individual assignments for remedial work; possibly motivation sought in spirit of competition.
  4. ...Assignments, drills and remedial work of whole class usually determined by needs of the slower portion and selected without accurate diagnosis.
  5. ...All pupils given same work; teacher apparently unconscious of remedial needs.

  Remarks: .....

III. Pupil Reactions
- A. *Activities*
  1. ...Purposeful activity; thoroughly motivated; carefully guided stimulating resourcefulness, originality, and creativeness, and commanding the finest efforts of which the children are capable.
  2. ...Purposeful activity, teacher and pupil initiated; offering possibilities for pupil coöperation, social participation, responsibility, and leadership.
  3. ...Activity initiated and directed by teacher; pupils participating readily; inclined toward verbatim thinking and expression.
  4. ...Some activity, but ineffective because of lack of organization, direction, and guiding purpose.
  5. Pupil activity and initiative repressed.

  Remarks: .....
- B. *Attitudes*
  1. ...Pupils are outstanding in theirs:
     - *a*) Social attitude—as evidenced by their self-control, their alertness to opportunities for school service, their dependability in assuming responsibility, and their loyalty and pride in making their school stand for something fine and worthy.
     - *b*) Scholastic attitude—as evidenced by their habits of independent work, their thoroughness of preparation and their measured accomplishments.
  2. ...Pupils show growth in self-control, in habits of study, in desirable social attitudes and in appreciation of better moral and mental standards of accomplishments.
  3. ...Pupils are generally trustworthy and coöperative in their school relationships, and responsive to lesson assignments, but without a compelling school spirit or pride in accomplishment.
  4. ...Pupils are submissive to authority but easily diverted and feeling no personal responsibility.
  5. ...Pupils show definite lack of control in school relations.

  Remarks: .....

IV. Personal Equipment
- A. *Progressiveness* (Tends to move forward with improved educational thought)
  1. ...Outstanding in ability to recognize values and adapt the results of research studies and investigations to the best interests of children; actively interested in progress of whole school and community; makes original studies and shares findings.
  2. ...Actively interested in professional growth; devotes time to study; is familiar with best educational practices, utilizes suggestions skillfully.
  3. ...Receptive, moderately progressive; supports professional organizations; shows some evidences of desire to improve.
  4. ...Not antagonistic, but unable to make adjustments to new standards, and quite satisfied with present attainments.
  5. ...Antagonistic to progressive practices in education that require new personal adaptations.

  Remarks: .....
- B. *Coöperation*
  1. ...Dependable and conscientious in readiness to promote interests of whole school and community; eager to serve; works whole-heartedly with others.
  2. ...Coöperative; welcomes opportunities for extracurricular services; skillful in utilizing constructive criticism and suggestion.
  3. ...Usually coöperative; accepts constructive criticism cheerfully.
  4. ...Individualistic or possibly antisocial; neither helps nor hinders policies of principal and others; inclined to resent suggestions looking toward improvement of work.
  5. ...A "knocker"; criticizes coworkers and administration; talks unwisely.

  Remarks: .....
- C. *Enthusiasm and Capacity for Work* (physical
  1. ...Enthusiasm radiated in all work, and fitness)

     reserve of power shown by voice and movement.
  2. ...Sufficient energy and willingness to meet all ordinary classroom and extra-service demands and to stimulate keen interest of pupils.
  3. ...Completes regular classroom work satisfactorily; both able and willing to assume a limited amount of additional responsibilities.
  4. ...Conscientious but lacks enthusiasm; tires easily; works under strain.
  5. ...Indifferent; lacks mental and bodily vigor.

  Remarks: .....

SEATTLE PUBLIC SCHOOLS

ADMINISTRATIVE RECORD

A Summary of Ratings from Teacher's Self-Evaluation Sheet

Teacher ..... School .....

Assignment ..... Date .....

Meaning of ratings in terms of general effectiveness:

1.=Superior—distinctly outstanding
2.=Very good—excellent—highly effective
3.=Good—satisfactory—growing
4.=Fair—below average—growth uncertain
5.=Poor—unsatisfactory—ineffective

For detailed explanation of major points, see Teacher's Self-Evaluation Sheet.

The ratings that follow represent a careful estimate of the quality of service usually rendered. They are based upon observation and specific information. Supporting details are available and will be supplied if desired.

..... Principal

			1	2	3	4	5
I.	CLASSROOM MANAGEMENT	A. Physical Equipment of Classroom					
		B. Organization and Classroom Atmosphere					
II.	TEACHING TECHNIQUE	A. Class Conference Period					
		B. Recognition of Individual Differences					
III.	PUPIL REACTIONS	A. Activities					
		B. Attitudes					
IV.	PERSONAL EQUIPMENT	A. Progressiveness					
		B. Cooperation					
		C. Enthusiasm and Capacity for Work					

RECOMMENDATIONS: No action necessary..... More attention by principal and supervisors.....

Attention from Superintendent's Office..... Transfer..... Dismissal..... (Check one recommendation.)

Comments .....

FORM USED BY PRINCIPALS FOR RECORDING TEACHERS' RATINGS

♦ Supt. A. E. Stevens, of Mt. Orab, Ohio, has been reëlected for a new three-year term.

♦ Supt. Frank W. Ballou, of Washington, D. C., has been reëlected for a three-year term. In taking action, the board members paid high tributes to Mr. Ballou's service.

♦ Mr. S. H. Berg has been elected superintendent of schools at Rock Island, Ill.

♦ Mr. Fred Miller, of Green Springs, Ohio, has been elected superintendent of schools at Fremont.

Von Duprin

REG. U. S. PAT. OFF.

Self-Releasing Fire and Panic Exit Latches

Who Buys Them?

The genuine Type "B" Von Duprin devices are bought by two distinctly different types of men.

The first is the man who wants the finest thing money can buy, regardless of cost.

The other is the man to whom cost is all-important. Not the buyer who looks only at the first cost, but the far cannier man who wants low upkeep costs for the many years of the building's life. The genuine Type "B" Von Duprins are made for him. Costing a little more in the beginning, they return the difference, many times over, year after year.

They pay dividends in dollars—and in satisfactory performance, in freedom from upkeep costs, in that peace of mind which comes from knowing that, in case of emergency, the devices will operate.

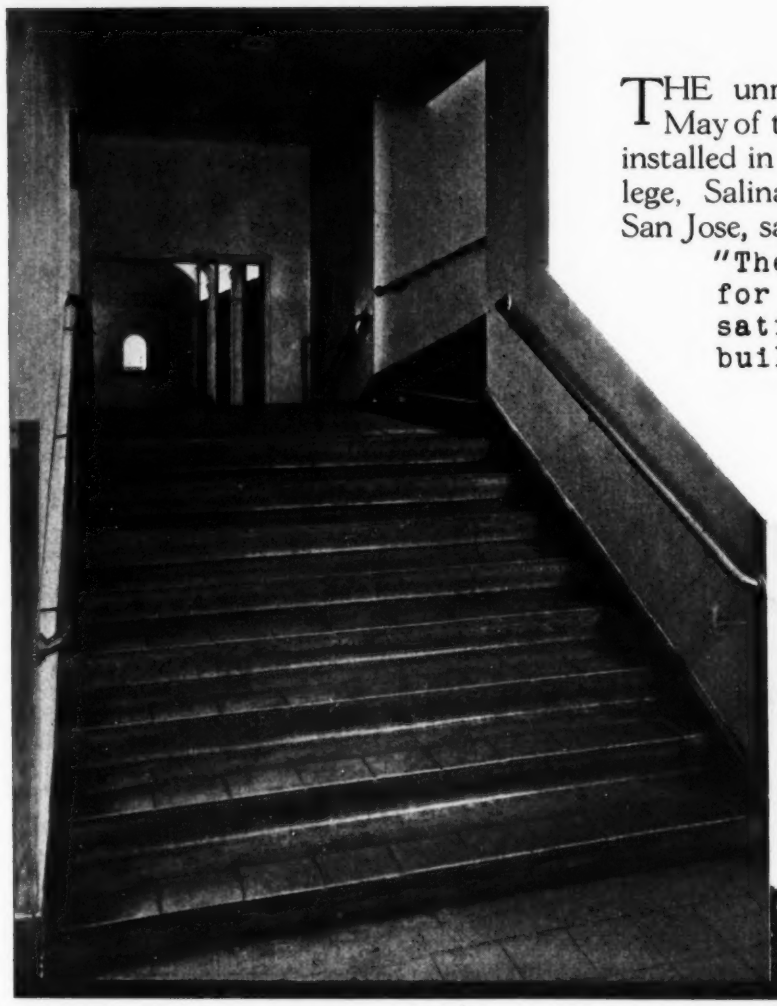
We suggest that you ask your architect to specify the genuine Type "B" Von Duprins by name, and as an item separate from the finishing hardware. Thus you foster clean competition, since all reputable dealers can buy them at the same fair price.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Listed as Standard by Underwriters' Laboratories

YOU CAN DO A LOT TOWARD MAKING THOSE OLD SCHOOL BUILDINGS SAFE - - UNTIL YOU CAN BUILD NEW ONES - - BY INSTALLING VON DUPRIN DEVICES.

"Alundum stair treads . . . . in use over ten years . . . . . no wear whatsoever"



THE unretouched photograph reproduced at the left, taken in May of this year, shows the appearance of the Alundum Stair Tile installed in 1920 in the Salinas Union High School and Junior College, Salinas, California. The architect, Mr. Ralph Wyckoff of San Jose, says:—

"The Alundum stair treads have been in use for over ten years and have proved entirely satisfactory. The constant traffic in this building has failed to show any wear whatsoever and I believe this is an ideal material for stairways in public buildings."

NORTON COMPANY, WORCESTER, MASS.

T-317

School Administration Notes

A PRE-SCHOOL CHECK OF CHILDREN

The parent-teacher associations in Sioux City, Iowa, have indicated a desire to see that kindergarten entrants in September, 1932, shall be in the best possible physical and mental condition. To this end, they have taken steps to create a class of entrants, with the purpose of obtaining concerted action to be adopted and followed out. The council has coöperated with members of the local county medical association and the school authorities, in the carrying out of a definite plan of action for principals in the various elementary schools. The procedure is as follows:

1. Obtain the names of all children in your own district who will enter school next fall or winter. These names may be secured through a census of your district or through inquiry among your present school children. It is advised that you secure the coöperation of your parent-teacher association for the purpose of carrying out a complete census of your community.

2. Set aside a day, between now and May 1, to have all of these pre-school children and their mothers meet with you at the school and arrange with the supervising nurse, to have a nurse present.

3. At this meeting explain the entire procedure for entering school and the general routine of school life.

4. The nurse will test each pre-school child for vision and help fill out certain blanks which will be supplied by the parent-teacher council committee.

5. It is planned to have each pre-school child examined by a physician and by a dentist. All parents able to pay will be asked to have the examinations made by their own family physician and dentist.

6. If there are pre-school children whose parents, at the present time, are unable to arrange for the examinations, the nurse and principal may arrange for the examinations of such child in the free clinic which may also make free correction of defects whenever such remedial work is necessary.

7. All examinations and corrections are to be completed by June 1 so as not to extend into the summer vacation.

8. Feel free to call upon your own parent-teacher-association president for a committee to help and coöperate with you in this round-up.

9. Dates for the various meetings and the number of children in each district should be reported as soon as possible.

ECONOMIES IN SCHOOL ADMINISTRATION

Public education is today facing a difficult situation which cannot wait upon the action of tax-assessing bodies, or slow-moving legislative action. The problems of education, especially in the matter of finance, call for immediate and thoughtful action if the schools are not to suffer.

Granting the value of all attempts to provide sufficient revenue for the schools, or to plan ways of distributing that revenue more equitably in the future, the essential question today is how to conserve for the boys and girls the greatest educational opportunity possible with the funds at hand.

Mr. O. S. Wood, professor of education at the University of Denver, speaking recently before the superintendents' section of the Colorado Education Association, emphasized that the school executive must realize that, temporarily at least, money available for public education must be curtailed, and that the task is not to rail at fate, but rather to prepare a well-thought-out economy program which will work the least hardship on the enrollment and will do the least harm to education as a whole.

"Granting that economy is necessary, and that the superintendent is responsible for the program," said Mr. Wood, "there are two qualifications for any economy program which must be taken into consideration if the program is to be efficient:

"First, the economies practiced must be in fields farthest removed from the actual classroom instruction.

"Second, the economies must be those which can be eliminated in the shortest time when additional funds are available. There are certain phases of the educational expenditures which can be curtailed with little or no harm to the child," said Mr. Wood. "These are the expenditures usually classified as debt service, capital outlay, operation and maintenance, and supplies for instructional purposes and operation expenses.

"The placing of interest and sinking funds in such a way in the bank that the largest and safest return will be afforded the school district is good business management and should be the responsibility of the business executive.

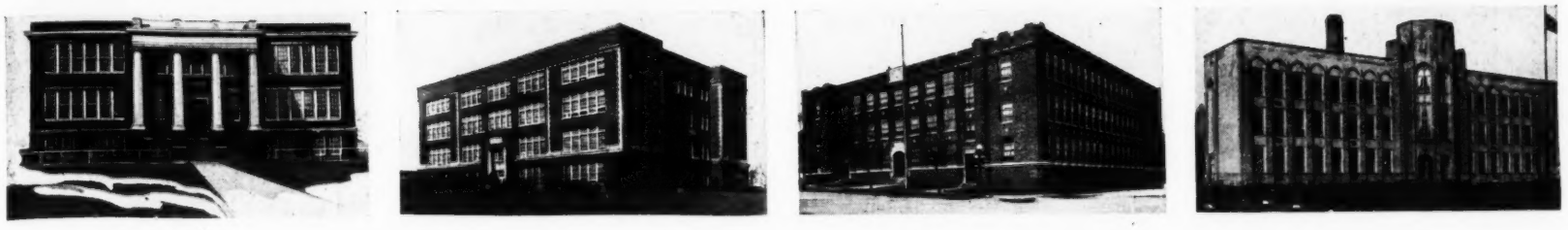
"Buildings are sometimes built without the proper measures of economy. Supplies are purchased at exorbitant prices due to a lack of business judgment on the part of those responsible. Many so-called indispensable products sold to school districts for use in the operation of the school plant are simple combinations and commonly used compounds and can be replaced by the commonly used cleaning agents with a saving of money and with no loss of efficiency.

"The cost of heat, light, and power are other fields for practical economy. Few school systems buy their fuel on the basis of an analysis to determine its efficiency as a fuel for the particular use to which it is put, keeping in mind the methods of firing and the type of boiler used.

"Training of the janitorial staff in the best methods of firing the boilers should result in a real saving in heating costs. Many firemen are untrained in their duties and in the proper care of heating apparatus. A small thing like keeping the flues clean makes a difference in the amount of fuel used.

"In conclusion," said Dr. Wood, "it is essential that those responsible for the expenditure of school funds in times like the present should make every effort to insure that the expenditures in fields farthest removed from the instruction of the child are necessary, and that if made, they must return to the school district the full value of the money expended in services rendered or supplies received. Economy, even drastic economy in these fields, will result in little or no undesirable effect upon the educational opportunity offered, and will be the easiest to be eliminated when additional funds are available."

When making up your budget consider your windows



NO MATTER WHAT TYPE THEY ARE—THAT'S WHERE HEAT IS LOST, THAT'S WHERE CHAMBERLIN WEATHER STRIPS SAVE MONEY

CHAMBERLIN Metal Weather Strips are a sound, lasting investment which yields dollars and cents dividends. By effecting tremendous savings in fuel they pay for themselves in from three to five years. As they last as long as the building stands they are a permanent *economy* feature. Schools equipped with Chamberlin Metal Weather Strips are easier to heat and the health of children is protected through the elimination of drafts.

Now is the time to have the windows and doors in your school equipped with Chamberlin. Because the price of metal is the lowest in years and because the cost of installation never was less.

There is Chamberlin Weather Stripping for every type of window — double hung, projecting, pivotal and others. Installation is made by factory-trained experts. Chamberlin guarantees their work to be satisfactory in every way. For 40 years this nationally known organization has had a reputation for using only the highest quality materials and of giving the finest workmanship.

Chamberlin Metal Weather Strips Save for 9000 Schools

Schools, public institutions and homes all over the country testify to the value of Chamberlin Weather Strips. At the top of this page are pictured four of the 9000 Chamberlin equipped schools. From left to right — Cheriton High School, Va.; N. W. Junior High School, Kansas City, Kansas; Anaconda Junior High School, Mont., and Garfield Heights High School, Ohio. Names of schools near you will be furnished on request for reference. Thousands of these schools have kept close records of the fuel savings effected by Chamberlin. For example, the Benson High School, Illinois, spent $600 for Chamberlin equipment and saved $147 in fuel or 24.5% the first year. The Paxton Grade School, Illinois, invested $814 and took back $182.50 or 22.4% of the cost through fuel savings the first year. The Homer Grade School, Illinois, spent $514.51 and saved $132 or 25.7% the first year.

Chamberlin can save your fuel money too! So that you may have complete particulars and exact cost of this vital equipment, a Chamberlin factory representative is prepared to call at the place and time you designate in the coupon below.

CHAMBERLIN METAL WEATHER STRIP CO.
Detroit, Michigan

Please send factory representative from your nearest branch to give particulars and make cost-estimate without any obligation to the undersigned or to any one attached to this school.

Place _____

Time _____

Requested by _____

School _____

Location _____

Hard on Shoes..Hard on *Floors*

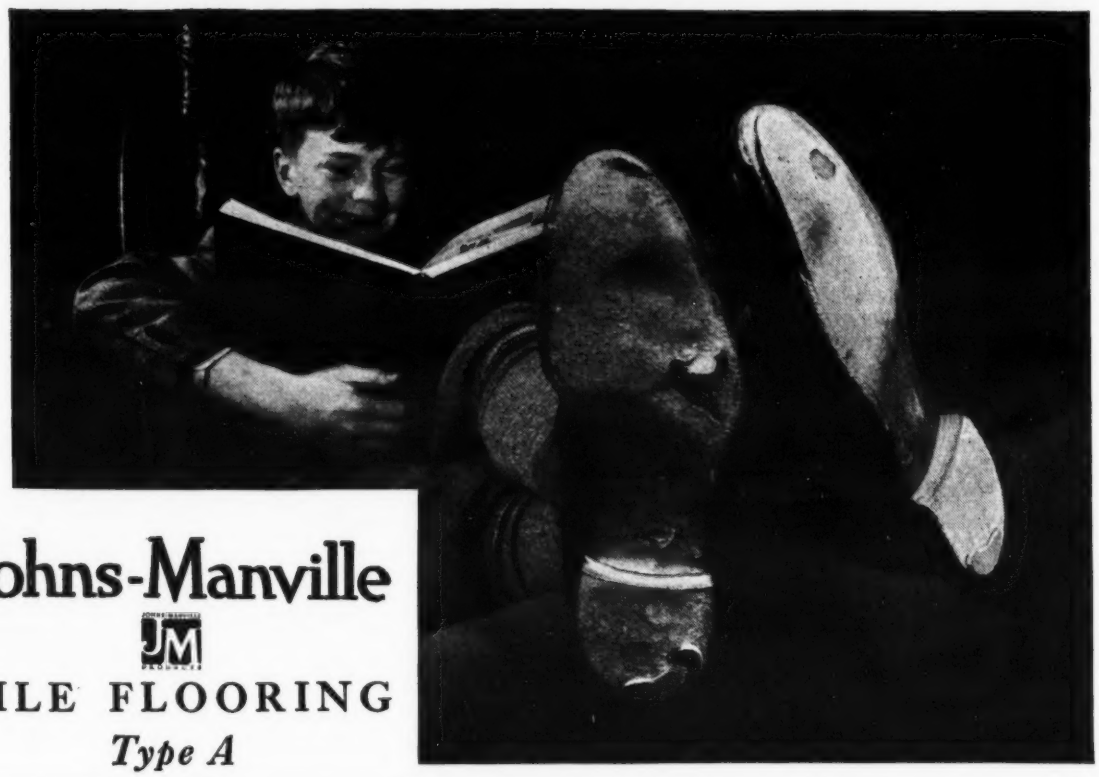
YOU'D almost say he took a mischievous delight in wearing out his shoes — in providing teachers and school boards with flooring problems to worry over. Yet he really never gives these matters a thought. He's just an active, growing boy with restless feet and an abundance of energy.

And Johns-Manville has solved one of the problems he presents. They've provided a flooring for schools that he, and the millions like him, won't wear out even with years of use.

J-M Tile Flooring *thrives* under school traffic. It has a high resistance to abrasion. The constant buffing of footsteps over its surface serves only to bring out its luster.

Nor does this long-lived flooring require more than a minimum of care. An ordinary brush or broom — an occasional wash-down with soap and water — is all that's necessary to keep it clean and attractive. Inks won't stain it . . . neither will ordinary acids.

This floor is comfortable . . . quiet . . . and safe for hurrying feet.



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TILE FLOORING

Type A

The rich colors in which this flooring is available will add warmth and cheer to the appearance of your school buildings. 12 solid colors and 8 mottled colors are offered, in tiles from 3 in. to 12 in. square, to combine with any decorative scheme.

In two thicknesses, 1/8 in. and 3/16 in., the cost of J-M Tile Flooring is comparable with linoleum of the same thickness.

Because all good flooring needs skillful laying, Johns-Manville has appointed Authorized Flooring Contractors in over 300 cities to serve you.

Send for the booklet, "Underfoot Overhead," giving full details. Address Johns-Manville, 292 Madison Avenue, New York City.

School Law

Establishment of School Lands and Funds

Generally, in the absence of abuse, the courts will not interfere with the exercise of discretion imposed by law upon school authorities. — *Gazaway* v. *Godfrey*, 163 Southeastern reporter 480, Ga.

The courts will interfere with the exercise of discretion imposed by law upon school authorities where the authorities' action is arbitrary, willful, or constitutes gross injustice, oppression, or corruption. — *Gazaway* v. *Godfrey*, 163 Southeastern reporter 480, Ga.

Schools and School Districts

Where the consolidation of school districts is ordered fraudulently and with intention to discriminate against and injure petitioners, equity will enjoin an election for the issuance of school bonds until the consolidation is properly completed (Ga. laws of 1919, p. 326, § 92). — *Gazaway* v. *Godfrey*, 163 Southeastern reporter 480, Ga.

The consent of a majority of the voters of each school district affected is necessary to give the county board of education jurisdiction to change the boundary line between districts (Ark. acts of 1931, p. 504, § 44). — *School Dist. No. 10* v. *County Board of Education*, 47 Southwestern (2d) reporter 606, Ark.

School District Government

Since a public-school board is constituted to act in public welfare, the board alone must finally determine every subject committed to its discretion and judgment. — *Johnson* v. *Sabine Parish School Board*, 140 Southern reporter 87, La. App.

Legislative and discretionary powers devolved by law on a public-school board or governing body politic cannot be delegated, but ministerial or administrative duties may be. — *Johnson* v. *Sabine Parish School Board*, 140 Southern reporter 87, La. App.

Statutes giving the state superintendent of education of Alabama authority to decide controversies, and to review the actions of county boards of education, do not require the superintendent to review all the actions of a county board (Ala. school code of 1927, §§ 68, 71). — *Harman* v. *Ide*, 140 Southern reporter, 418, Ala.

The powers of government of a school district is in the directors. — *Beck* v. *Independent Consolidated School Dist. of Jefferson Twp.*, 241 Northwestern reporter 427, Iowa.

A majority of the trustees is required to sue in behalf of the school, or for the possession of school property. — *McCandless* v. *Day*, 140 Southern reporter 337, Miss.

An individual member of the school board who participated in the unauthorized purchase of realty was held liable to the school district for money expended (Minn. statutes of 1927, § 2815, subd. 1). — *Trichler* v. *Bergeson*, 241 Northwestern reporter 578, Minn.

A member of the school board who votes to make a contract in violation of a competitive bidding statute and participated in expenditures thereunder is liable to the school district (Minn. statutes of 1927, §§ 2846, 2847). — *Trichler* v. *Bergeson*, 241 Northwestern reporter 578, Minn.

A member of the school board, if participating in the payment of more money under a contract than the subject matter is reasonably worth, is liable to the school district (Minn. statutes of 1927, §§ 2846, 2847). — *Trichler* v. *Bergeson*, 241 Northwestern reporter 578, Minn.

School District Property

The exchange of a schoolhouse site for other land and the subsequent reconveyance of the land are related to the proprietary powers of a school district. — *Beck* v. *Independent Consol. School Dist. of Jefferson Twp.*, 241 Northwestern reporter 427, Iowa.

A statute authorizing a board of education to exact security from a contractor, and a bond given thereunder, was held primarily for the protection of the promisee and secondarily of laborers and materialmen (N. Y. Education Law, § 875, subd. 8). — *Samson Electric Co.* v. *Buffalo Electric Co.*, 256 N. Y. S. 219, N. Y. App. Div.

Before a materialman can sue on a contractor's bond to a board of education, expressly authorizing such action, the dominant purpose of securing the board must be fulfilled (N. Y. Education Law, § 875, subd. 8). — *Samson Electric Co.* v. *Buffalo Electric Co.*, 256 N. Y. S. 219, N. Y. App. Div.

A materialman suing on a contractor's bond to a board of education, authorizing such action, must allege as part of the cause of action, fulfillment of the dominant purpose of the bond to secure the board (N. Y. Education Law, § 875, subd. 8). — *Samson Electric Co.* v. *Buffalo Electric Co.*, 256 N. Y. S. 219, N. Y. App. Div.

Individual school-board members are held not liable to defaulting a school-building contractor's surety for the failure to retain a stipulated percentage of the contract price. — *Fidelity & Deposit Co. of Maryland* v. *Board of Education of Pender County*, 162 Southeastern reporter 763, 202 N. C. 354.

A teacher's or an employee's failure to lock a school gymnasium or to bolt the apparatus to the floor was held not chargeable to the board of education. — *Longo* v. *Board of Education of City of New York*, 255 N. Y. S. 719, N. Y. App. Div.

Teachers

A county board of education could reject a county superintendent's nominee for the principal of a school in a consolidated school district, but could not choose another principal not first nominated by the superintendent (Ky. statutes § 439a–11). — *Floyd County Board of Education* v. *Hall*, 47 Southwestern (2d) reporter 514, 242 Ky. 680.

A statute providing for a notice of discharge to probationary teachers was enacted in the interest of both teachers and school board (Calif. school code, 5.681, 5.682). — *Steele* v. *Board of Trustees of Pittsburg Public Schools*, 9 Pacific (2d) reporter 217, Calif. App.

Where a statute specifically enumerates causes for which a teacher may be dismissed, a teacher cannot be dismissed for any other cause. — *School City of Elwood* v. *State*, 180 Northeastern reporter 471, Ind.

Where written notices from a school board dispensing with their services were received by probationary teachers before June 10, the service was valid, although the clerk had sent notices by unregistered mail (Calif. school code, §§ 5.681, 5.682). — *Steele* v. *Board of Trustees of Pittsburgh Public Schools*, 9 Pacific reporter (2d) 217, Calif. App.

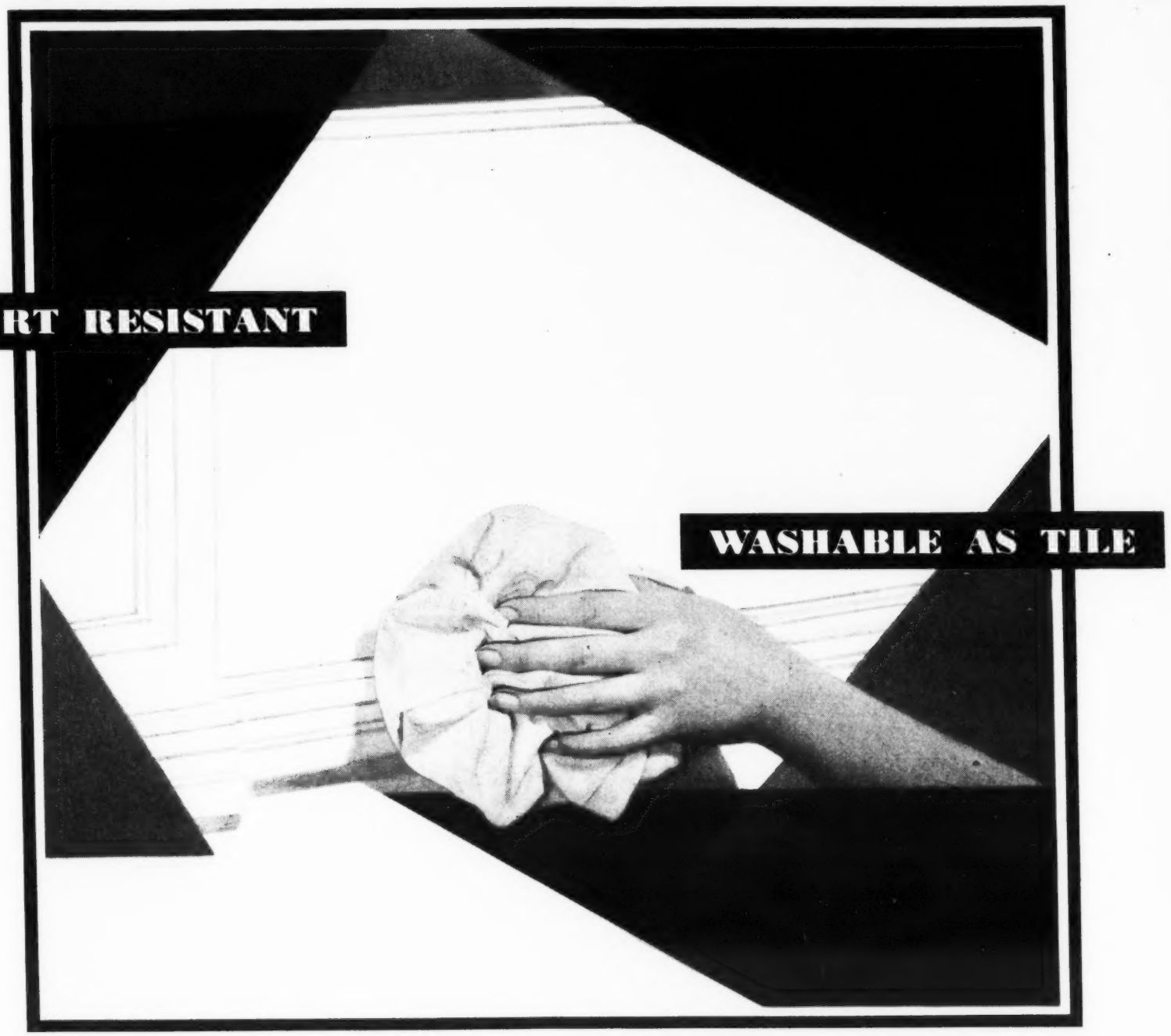
A school board's dismissal of a permanent teacher for a statutory cause is conclusive, and not reviewable by the courts, unless the board acted in bad faith, arbitrarily, corruptly, fraudulently, or in gross abuse of its discretion (Burn's annotated statutes supp. of 1929, § 6967.2). — *School City of Elwood* v. *State*, 180 Northeastern reporter 471, Ind.

Where a school board, in dismissing a teacher, acts outside of its jurisdiction or statutory power, the board's action is reviewable by the courts. — *School City of Elwood* v. *State*, 180 Northeastern reporter 471, Ind.

A teacher performing duties under a contract, except for occasional times when she procured and paid a satisfactory substitute, was held entitled to her salary. — *Ridge* v. *Miller*, 47 Southwestern reporter (2d) 587, Ark.

Pupils

Children who are living temporarily with relatives in one school district, have their school residence in the district where their only living parent resides. — *Fangman* v. *Moyers*, 8 Pacific (2d) reporter 762, Colo.



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Such interiors are lastingly bright . . . clean . . . cheerful. And they are easily . . . economically maintained.

A damp cloth quickly removes accumulated dust, smudges and finger prints from Barreled Sunlight surfaces; satin smooth, flawless, they have no minute cracks or recesses to catch and hold dirt.

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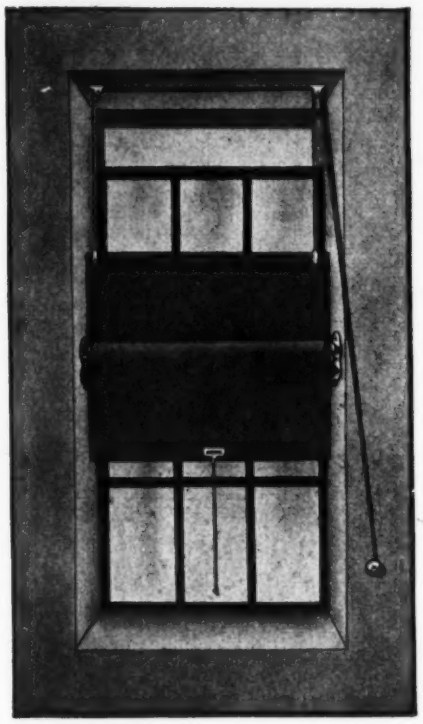
MAXWELL SHADES



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A low priced, scientific, double roll shade for schools. When equipped with Maxwell's LIFE-TIME canvas, the Senior conforms to the most stringent shade lighting codes.

LIFE-TIME CANVAS
A REAL ECONOMY

Due to the present low prices in the cotton market, MAXWELL SCHOOL SHADES of LIFE-TIME canvas are available this year at a price that means real economy. Quality has in no way been sacrificed, for the MAXWELL SCHOOL SHADE is being maintained on the strictly high level which has made MAXWELL'S the preferred shade for schools throughout the country.

We offer you the utmost in service at this period when you are giving consideration to school shade purchases. It will be to your advantage to discuss with your school supply distributor at this time your school shade problems in order that your schools will be well equipped and in good condition for the opening in September.

The underlying principle in the manufacture of MAXWELL SCHOOL SHADES has been that of proper classroom lighting. In order that you, too, might understand what points to look for in purchasing window shades, we have prepared a booklet, MODERN SHADING, which discusses in a very clear fashion the basic principles of classroom illumination.

A copy of MODERN SHADING will be sent you free upon request.

MAXWELL'S SHADE SERVICE BUREAU
3636 IRON STREET CHICAGO

OREGON REORGANIZES HIGHER EDUCATION

The public relations committee of the Oregon State Board of Higher Education has announced the completion of the work of reorganizing the state's system of higher education, as provided for in the law of 1929.

Beginning with the new school year in September, all of the institutions of higher learning will be under one management and will operate as a single coördinated unit known as the Oregon State System of Higher Education.

Under the new plan, the state university, the state college, the medical school, and the three normal schools are units of the one system under the control of the state board of higher education and administered by a single chancellor. The plan of administration provides that each unit shall retain its individuality, with its affairs directed by a president, dean, or director.

The basic unit under the plan is curricular rather than geographical. Each field of instruction is organized into a school, all of the instruction in the field being included under the supervision and direction of a single dean. The schools are the fiscal as well as the administrative units, the budgets being built on the basis of the school rather than the campus location.

CLEVELAND SALARY SURVEY COMMITTEE PRESENTS REPORT

Mr. Harold T. Clark, chairman of the citizens' committee on the survey of the school business department, has presented the report of the committee covering seven weeks of study by 28 leaders in the fields of finance, building operation, merchandising, engineering, restaurant operation, and printing. It was accepted by Mr. Alfred A. Benesch, president of the board, who paid a fine compliment to the splendid work of the survey committee.

The report covered everything from school paper and cafeteria management to the pyramiding of departments and bureaus. The committee suggested a concentration of authority over the entire school system in a single educator-administrator, as the most effective means of enforcing economy and eliminating inefficiency in school business affairs.

The committee estimated that a saving of approximately $192,578 could be effected by eliminating 28 unnecessary employees in the business department, and by cutting salaries from 12 to 22 per cent in the business and clerical departments. A further saving of $100,000, it was suggested, could be effected by inaugurating a number of proposed economies as outlined in the report.

A general reorganization of the clerical, maintenance, and custodial staffs at the school headquarters and in the field, to obtain a maximum of service at a minimum of expense, was suggested in the report. It was pointed out that the custodians might be asked to share in the maintenance responsibilities, that a central stenographic room might replace the numerous specially assigned stenographers, and that purchasing and deliveries might be entirely reorganized.

RADIO EDUCATION EXPERIMENT UNDER WAY

An experiment in teaching by radio will be undertaken this summer by the National Broadcasting Company and the Chicago public-school system. Only children below the age of 10 will be used in the experiment, which will be conducted under the personal direction of Miss Judith Waller, a foremost leader in educational work in radio and one who has had considerable experience in this field of activity. The work will start June 20 and will close August 12. The broadcasts will be made daily, except Saturday and Sunday, and the program will comprise work in English, mathematics, science, and social science for seventh, eighth, and ninth-grade pupils, and for children from the first through the sixth grades.

♦ "Educators to be successful broadcasters in radio must disregard many pedagogical practices developed over many decades," said Mr. Levering Tyson, director of the National Advisory Council on Radio in Education, speaking recently at the second annual meeting of the council in Buffalo, N. Y.

Mr. Tyson claims that the problem of adequate support of educational broadcasting has not reached a satisfactory solution. The financial matter has proved the most puzzling in connection with educational broadcasting and it does not seem likely that present proposals will receive encouragement or support.

SCHOOL ADMINISTRATION NOTES

♦ Oneida, N. Y. A complete school census was made by the teachers of the city schools on May 12 and 13. The work was carefully organized and each member of the staff was appointed as an official enumerator. A valuable objective was the mutual acquaintance which the teachers obtained with the parents and the homes.

♦ The first week in May was celebrated as boys' week at Oneida, N. Y. On the preceding Saturday there was a parade of all the boys of the city, which ended in a mass meeting in the local theater, where Principal James Shea of the Lincoln School, Syracuse, gave a talk.

♦ Scottsbluff, Nebr. A music festival entitled "The Festival of the Flowers" was recently held with the assistance of 1,600 children of the elementary grades. The children sang as a single chorus, while pageant representations were presented on the stage. The theme was based on the story of a flower, from seed time to blossoming time.

♦ Atlantic City, N. J. A coöperative project in which all departments of the city schools united was the pageant, "Washington, the Man of All Times." The pageant had been approved by the mayor, the city commissioners, and the board of education as the official celebration of the two hundredth anniversary of the birth of George Washington. The pageant was presented on June 29 in connection with the convention of the N.E.A.

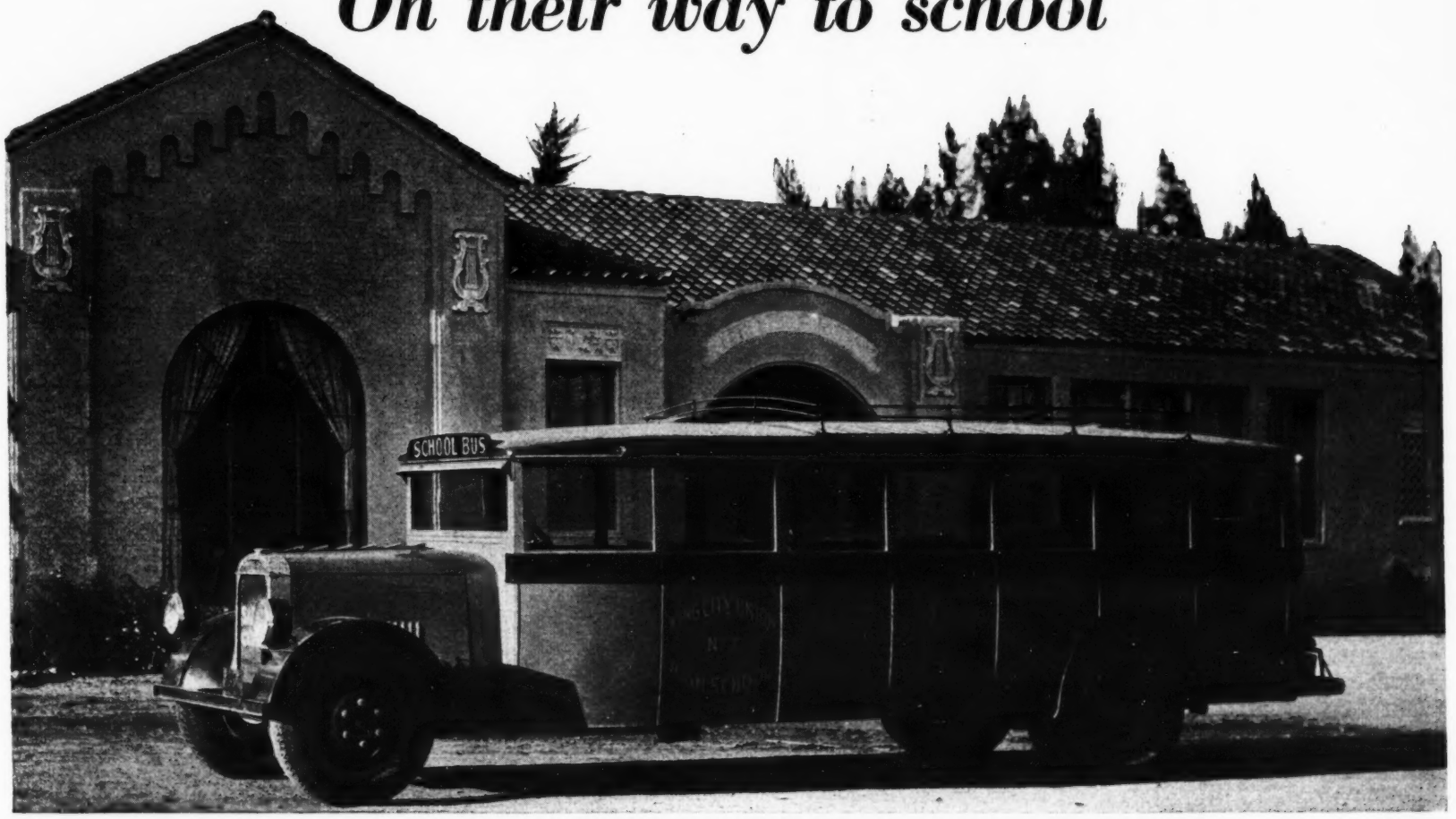
♦ Providence, R. I. The school board has revised its rules, requiring that teachers elected on probation, or permanently, shall file with the superintendent a medical certificate, signed by a school physician, or the family physician, showing that the teacher is in good health and physically able to perform the duties of her position. Any teacher, or school employee, who is absent more than five successive school days on account of personal illness must file with the principal a certificate from a physician testifying that the teacher is in good health and is physically able to return to school duties.

♦ When the board of education of Salem, Oreg., ruled that secret societies would no longer be tolerated, the local high-school students withdrew from the fraternities. Some 60 odd students had been suspended. These were permitted to enter the school again upon the presentation of affidavits to the effect that they were no longer affiliated with secret societies.

♦ The State Supreme Court of Wisconsin, in a recent decision, refused to allow the issuance of a peremptory writ of mandamus, compelling the school board of Joint Dist. No. 2 of the city of Princeton and towns of Princeton and St. Marie to establish a kindergarten. A petition had been addressed to the school board by the parents of 28 children asking that a kindergarten be established, but the school board refused to comply with the request. The school board had contended that there was no basis in law for the writ and that it was not physically able to accede to the request.

To Keep Them Safe

On their way to school



One of a fleet of buses equipped with L·O·F Safety Glass, operated by the King City Union High School, King City, Cal.

● *A recent authoritative survey in which approximately 150,000 motorists were questioned, showed that 45% of all persons injured in motor car accidents were cut by broken, flying glass.*

Children must not be exposed to such a needless, avoidable danger. With all the safeguards now incorporated in every school *building*, it is only common sense to provide similar protection in the *buses* which carry the children between their homes and the classroom. It should be general practice now for school authorities to insist on Safety Glass in the windshield, doors and windows of every new bus they order. It is just as important that present equipment be modernized as it is that new equipment be thoroughly modern in every respect. That means Safety Glass. The sparkling, brilliantly finished Polished Plate Glass and transparent plastic, the specially prepared, exclusively employed bonding agent which holds them firmly together, the perfected bonding process and the *sealed edges* of the L·O·F product assure a Safety Glass which affords lasting safety and clear vision.

L·O·F Safety Glass is used in Bender Bus Bodies, Twin Coaches, Brill Trolley Buses, Cincinnati Trackless Trolley Coaches, Hackney and Springfield School and Passenger Bus Bodies, White School Buses, and York-Hoover School Bus Bodies.

Specify L·O·F Quality Glass for original glazing and replacement in all school doors and windows.

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Safety and Dependability!

THEN—
The Economy so necessary today!

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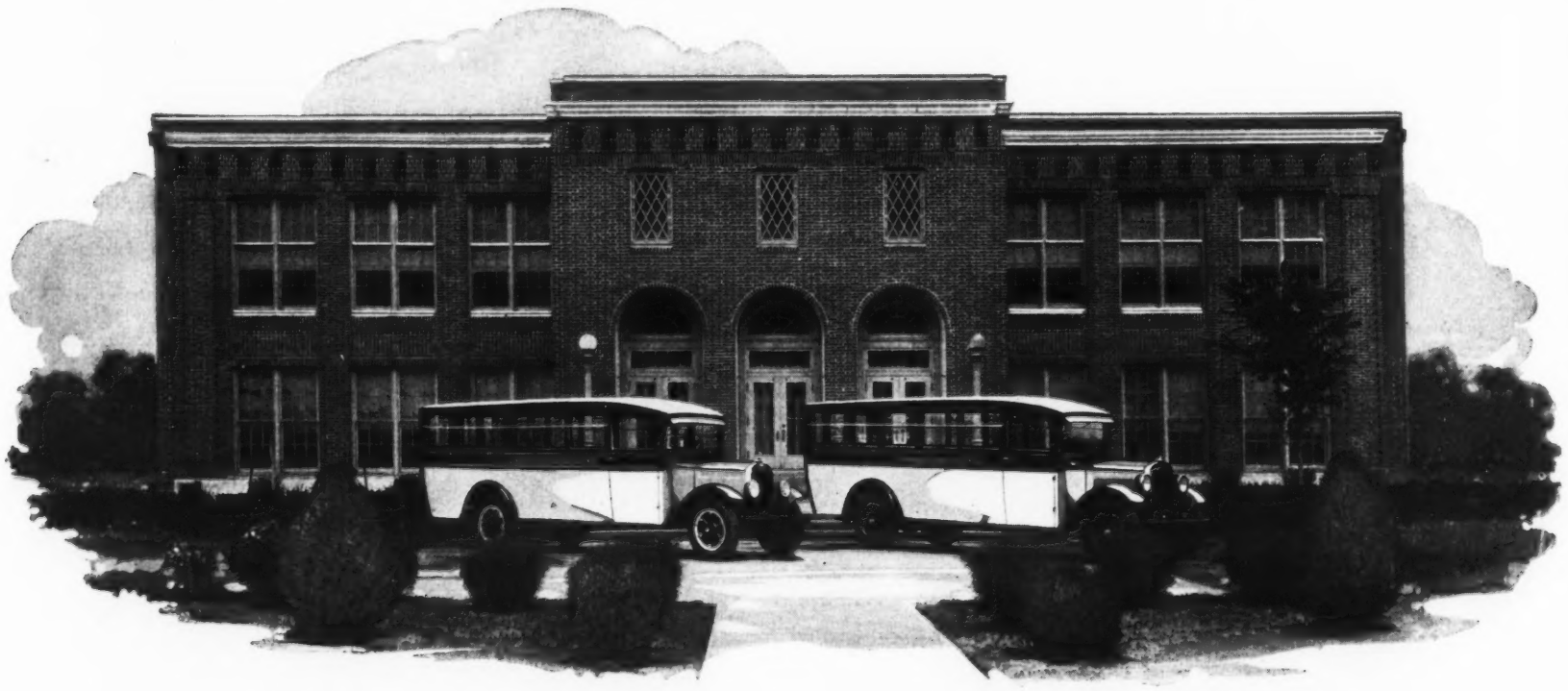
Maximum safety and comfort for the children . . . . You are sure of it when you purchase a Dodge School Bus.

And then come the questions of economy of operation and maintenance, economy in purchase price, availability of service, long life . . . And the answers again are emphatically Dodge.

Years of experience in carrying millions of children have built for Dodge an unassailable record.

See your nearest Dodge Dealer whatever may be your School Bus needs.



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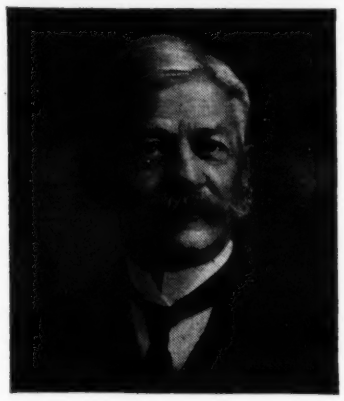

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Personal News of School Officials

♦ Dr. Elmer Ellsworth Brown has announced his retirement as chancellor of New York University. Dr. Brown was inducted into office in November, 1911, as the seventh man to hold the position. He will be 71 years old in August. Dr. Brown came to New York University from Washington, where he had been United States Commissioner of Education since 1906.

♦ Mr. Ernest E. Oertel has been elected superintendent of schools at North Tarrytown, N. Y., to succeed Charles A. Benedict. Mr. Oertel completed his graduate work at Leland Stanford University and Teachers College, Columbia University, and was for some time supervising principal at Mountain Lakes, N. J.

♦ Mr. W. G. Harmon has been elected superintendent of schools at Spencer, Ohio, to succeed Quinn McAdoo.

♦ Mr. C. E. Melton, of Walnut, Ill., has been elected superintendent of schools at Eureka, to succeed B. C. Moore.

♦ Mr. E. M. Crawford, of Sycamore, Ohio, has been elected superintendent of schools at Ohio City, to succeed B. F. Cotterman.

♦ Mr. R. O. Stoops, of Wilmington, Del., has been elected superintendent of schools at Jacksonville, Ill., to succeed Ralph Yakel.

♦ Supt. William Harris, of Decatur, Ill., has been reëlected with a 10-per-cent reduction in salary.

♦ Mr. T. A. Passons, of Centertown, Tenn., has been elected superintendent of schools at Sparta, to succeed M. C. Wallace.

♦ Supt. A. L. Cook, of Rochester, Mich., has been reëlected for the next school year.

♦ Mr. VanAtta, of Wren, Ohio, has been elected superintendent of schools at Vanlue.

♦ Mr. J. Paul Gardner, of Metcalf, Ill., has been elected as principal of the high school at Forrest, for the coming year.

♦ Mr. S. P. Emmons, president of the board of education at Mexico, Mo., for 25 years, has recently retired. Mr. Emmons had been a member of the board for 45 years.

♦ Mr. M. M. Schell, of Correctionville, Iowa, has been elected superintendent of schools at Ida Grove, to succeed C. W. Sankey.

♦ Mr. B. D. Cotterman, of Ohio City, Ohio, has been elected superintendent of schools at Alger, to succeed T. W. Figley.

♦ Supt. H. O. Hanna has been reëlected for another year at Mt. Gilead, Ohio.

♦ Supt. E. W. Howey, of Defiance, Ohio, has been reëlected for a three-year term.

♦ Supt. W. R. Bell, of Cambridge, Ohio, has been reëlected for a three-year period.

♦ Mr. H. W. Sanders has been elected superintendent of schools at Martinsville, Ohio, to succeed Carl Shanks.

♦ Mr. Curtis Fagan has been elected superintendent of schools at Walnut, Ill., to succeed C. E. Melton.

♦ Supt. R. E. Offenhauer, of Lima, Ohio, received an honorary degree from Ohio Northern University at the commencement exercises in June.

♦ Mr. A. F. Roush has been elected superintendent of schools at Brookville, Ohio.

♦ Supt. W. E. Smith, of Fairfield, Conn., has been reëlected for another year.

♦ Judge Austin E. Griffiths has been elected a member of the board of education at Seattle, Wash.

♦ Mr. Ralph Graham and Mr. W. L. Huff have been elected as new members of the school board at Decatur, Ill. Mr. Huff will serve for a term of one year and Mr. Graham was elected for a three-year term.

♦ Mr. R. E. Heacock and Dr. C. B. Edwards have been elected as new members of the school board at Kearney, Nebr.

♦ Mr. George W. Christesen has been reëlected as superintendent of buildings for the board of education of Bellingham, Wash.

♦ Mr. C. A. McCoy, of Plymouth, Ill., has been elected superintendent of schools at Newton, Iowa.

♦ Mr. D. H. Patton, of Clinton county, Ohio, has been elected superintendent of schools at Bellevue.

♦ Mr. J. M. McDonald, of Pocatello, Idaho, has been elected superintendent of schools of the Union High School District at Sweetwater, Calif.

♦ Mr. E. Norman Vaughn, formerly principal of the high school at Pocatello, Idaho, has been elected superintendent of schools, to succeed J. M. McDonald.

♦ Mr. Selmer H. Berg, of Stoughton, Wis., has been elected superintendent of schools at Rock Island, Ill., to succeed J. J. Hagen.

♦ Miss Florence J. Parker, head of the English department in the schools of Geneva, N. Y., has announced her retirement this year, with the completion of 49 years of service in the schools. In recognition of her long and efficient service, Miss Parker was given a dinner by the high-school faculty and was the guest of honor at the annual alumni banquet.

♦ Mr. D. T. Hill has been elected superintendent of schools at Ripley, Ohio, to succeed C. C. Grothaus.

♦ Mr. O. O. Patterson has been elected superintendent of schools at Rutland, Ohio, to succeed C. O. Chapman.

♦ Mr. F. E. Dodge, of Keego Harbor, Mich., has been elected superintendent of schools at Decatur, to succeed L. A. Shaw.

♦ Mr. N. E. Helderman has been elected superintendent of schools at Washington, Ind., to succeed J. H. Shipp.

♦ Dr. Frank W. Ballou, superintendent of public schools of Washington, D. C., has recently been reëlected for a three-year term, beginning with July 1.

♦ Mr. John W. Holt, of Springboro, Ohio, has been elected superintendent of schools at Russellville. He succeeds John B. Henry.

♦ Mr. W. H. Weaver, age 40, superintendent of schools at Seven Mile, Ohio, died at a hospital in Hamilton on June 1. Mr. Weaver was a graduate of Antioch College and completed his postgraduate work at Ohio and Miami Universities. He had been superintendent of schools at Seven Mile for three years.

♦ Supt. A. W. McKay, of Middleport, Ohio, was presented with a chair and footstool by the teaching staff as a token of esteem and in recognition of his long service in the schools.

♦ Mr. L. S. Devoe, of Geneva, Nebr., has been elected superintendent of schools at Plattsmouth.

♦ Miss Susan Lockhart, principal of the Washington School at Nutley, N. J., was recently the guest of honor at a dinner given in recognition of the completion of twenty-five years of service in the schools. One hundred guests testified in the form of gifts, eulogies, etc.

♦ Supt. C. J. Burger, of Washington, Mo., has been reëlected for the next school year.

♦ Mr. Lester C. Schuknecht, of South Glens Falls, N. Y., has been reëlected as supervising principal of schools, with an increase in salary.

Economy in Student Activities

George E. Allen, Onawa, Iowa

If school boards would regard their work more as a part of the business of education, and if educators and legislators in defining the scope of their work would regard them less as mere conservators of the budget and the physical properties of the school, there would be better educational results in the coöperation that is so necessary between schoolmen and women and school boards.

Student activities, or extracurricular activities, are comparatively new in the history and growth of American schools. Their greatest development has taken place during the past fifteen or twenty years. Small high schools, rural consolidated schools, and even the one-room country school, are engaging more and more in these activities of the students that are not part of the regular school courses.

And because they are yet new, some of them scarcely out of the experimental stage educationally, there is necessarily much waste in both energy of teachers and students and in money. These activities have expanded to such huge proportions that the time is at hand for a thorough study and appraisal of their educational values, and of the abilities of the respective communities to pay for them.

The questions for school boards to answer with reference to them are: First, how can these activities be best selected, organized, and administered to contribute the most to the lives of the young people who will or should benefit by them? Second, how can they be most economically managed?

Covering a Wide Range

A survey of the following long list of student activities, some of which are fostered by every secondary school of the land, shows that school boards and school faculties have covered an enormous range, and that they have considerable opportunity to choose those activities that will contribute most to education and at the same time stay within the capacity of the community pocketbook.

In athletics, every school engages in at least one of the following sports or games: football, baseball, basketball, track, swimming, golf, tennis, wrestling, hockey, and, no doubt, others.

In forensics, debate and declamation and forensic clubs comprise most of the activities.

In dramatics, the several school, class, and dramatic-club plays are the usual list.

Activities in journalism comprise the school newspaper to train in publishing news; the school magazine to publish the students' literary efforts; the school annual or yearbook to publish and record the school history; and the school handbook to publish information about the school.

In addition to these, there are many other activities. The class organizations engage much of the students' time and require no insignificant portion of the parents' spare change for parties, banquets, the purchase of class rings, emblems, and so forth. The participation of students in school government, also, is a very important activity or group of activities, in the form of student councils, leadership conferences, committees of students, generally centered in the student council, for all of the other activities, homeroom groups, students' courts, and the like.

Musical organizations of the students seem each year to grow more imposing and important, with the corresponding increase in their cost. The popular demand for musical training in the schools presents a big problem in financing the various enterprises. The many costly instruments, the special instruction required, the bands, orchestras, glee clubs, operettas, music contests and music festivals stagger many school boards in their efforts to provide the training, without overdrawing the annual budget.

Problems of Finance and Discipline

The social life of the students also gives rise to a growing group of activities that give our young people their most enduring training in manners, courtesy, and social adjustment. These activities also raise some of our most difficult problems of finance as well as of discipline. Many schools have a social committee, the chairman of which is a member of the student council, whose business it is to arrange programs of the school's social activities for the year. School and class parties, dances, interclass receptions, banquets, and the control, regulation, or prohibition of secret social organizations suggest the complexity of the problems, and the expense of this line of youthful activities.

One method of economy has already been suggested in this paper, which is the selection of those activities that afford the educational benefits at a cost which the district can afford. And because most of the activities are scarcely out of the experimental stage, school boards and faculties have much latitude in the selections to be made. But to do this scientifically and for the best interests of the students, educators should do the pioneer work in determining and measuring the educational values of each activity, in proportion to its cost in money. Studies should be made covering many schools and the lives of many students over all the years of their lives both in and out of school. Until that work is done, school boards cannot know with much degree of accuracy which activities are best adapted to the educational needs and financial resources of their districts.

We should not forget that, whether the money for these activities is raised by taxes and paid as part of the annual budget, or paid by assessments on the students engaged in the activities, or paid by admission fees, it all comes out of the people in the school district and the same taxpayers generally pay the bill. There is just as much need for the best business management of these activities and the strictest economy in their operation where the cost is not included in the tax levy as where it is. And school boards owe the same duty to see that economy is practiced in every activity. In fact, economy in management by the students engaged in each activity is one of the chief educational advantages to be gained from it.

There are many occasions for protecting the students and patrons from unwise expenditures in these activities. In athletics, participation in too many tournaments and championship contests is the source of much expense without compensating benefits.

The most watchful eye must at all times be kept on houses and agents that sell rings, emblems, and other paraphernalia for the students. It is usual for every senior class to spend from three to ten dollars per year per student more for these articles than their actual market value. And it has sometimes occurred to me that some of these marks of distinction could be dispensed with entirely.

My summary of this second main division of my paper is that school boards must insist on the combination of the educators and the business man in the office of superintendent; and the superintendent must exercise constant and active control and supervision of the financial phase of every activity; and all possible methods of economy must be learned and practiced.

CHEAP SCHOOL BUILDINGS ARE COSTLY

To the Editor:

Can a $40,000 school be built properly for $25,000? This question should be easily answered by most any intelligent person; but, as a matter of fact, architects are constantly required to warn school boards of the hidden menace in cheaply constructed buildings.

The construction of the schoolhouse in the consolidated and independent school district is obviously one of the most important and vital subjects within the confines of such a community. Yet it is surprising the manner in which some school boards comprised of intelligent men and women treat the matter of a new building.

In many smaller communities school boards are composed of persons with absolutely no knowledge of building, with the possible exception of barns, corn cribs, and other types of smaller structures. These exceptions generally are the most easily convinced that any building, because of a concrete foundation, regardless of mix, amount of reinforcing, depth and size of footings, is quite satisfactory, if the price is right; forgetting the rapid depreciation of cheap materials and the obvious expense incurred to maintain a poorly constructed building. As a consequence, board meetings in many rural communities are infested with incompetent builders who play as vultures on the taxpayers, causing a lack of confidence in all phases of building.

Considering that the rural school is the center of life and activity of the whole community the environment the public school offers has a strong influence upon future generations of citizens. It is the place where health and correct training are paramount, and it is nothing short of criminal to jeopardize the health and lives of these children, by wasting money to secure something for nothing.

Not many weeks ago several members of the writer's office witnessed a building held together with tie rods to keep the walls from actually falling apart. The critical condition of this building prompted the townspeople and the school board to investigate state aid, costs of building and architects, relative to a new building. The result of the investigation was to select those persons promising a magnificent ten-room-and-auditorium school for the amount of money they had to spend. It is our prediction that they will find the second school in a similarly depreciated condition in five years or less.

Any conscientious architect familiar with costs, and not depending on jobs gained by the misrepresentation of facts, knows full well that a brick school building containing ten classrooms and a large auditorium cannot be erected according to the best practice of school planning for $25,000. Thus the means incorporated by the *promising type* of architect are: under-sized rooms, low ceilings, poor lighting and ventilation, insufficient foundation, faulty roof, and all in all a building totally unworthy for our children who so need the benefits of proper light, air, and sunshine, to spend the greater part of their early lives.

In regard to maintenance and upkeep, I am reminded of a striking example practically within the bounds of the city of Beaumont. The original contract was $60,000. The district was required to spend $1,000 yearly for six years to keep the building in first-class condition and at the end of six years spent $23,000 for remodeling. Thus more than a third of the amount of the original contract was required for remodeling. This kind of economy is certainly penny wise and pound foolish, as it costs considerably less in the long run to build correctly the first time.

Heavy maintenance costs only increase the tax burden which in many cases is too high at the start, and the taxpayer is not altogether at fault if he votes against a new school, especially if he has once become the victim of a nearsighted school board.

It is undoubtedly far more profitable for the school district, if the board will overcome these unfortunate conditions by first selecting an architect of known ability and integrity with whom it can work out its problems for the best interest of the board, the children, the parents, and the taxpayer.

It is my sincere hope that these few words will sound a warning to members of school boards who are considering a building program during the summer months, against incompetency both in the architect and the contractor.

JOHN H. PRITCHARD

Beaumont, Texas, May 23, 1932.

BUILDING CONSTRUCTION

During the month of May school-building construction in the United States amounted to $7,101,800 in contracts let. Dodge reported 175 projects east of the Rockies, amounting to 1,380,000 square feet, and costing $6,516,000.

Prices of building materials continue to drop. The United States Bureau of Labor Statistics reported an average wholesale price on June 11 of 71.0 as compared 71.7 on May 7, and 72.9 on April 9.

SCHOOL BOND SALES

During the month of May, 1932, the total sales of school bonds in the United States amounted to $6,346,000. Massachusetts led with sales of $1,737,000, and New York followed with $1,379,000. No sales were reported from 28 states. The interest rate which had been dropping steadily since the first of the year, rose from 4.77 on May 1 to 4.94 on June 1. Indications are for easier sales and lower interest rates as school boards report adjustments of budgets.

BIG THINGS can be accomplished with LIMITED school budgets

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● Mr. J. Robb Harper is superintendent of the Wilmette, Illinois, Public School System — comprising 4 schools with a total of 52 classrooms.

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Mr. Harper says:

"My budget has always carried an item for New Developments, so that the Wilmette Public Schools can maintain their high standards in offering modern schooling with modern equipment. With a full realization that good health is vital to the pupils' progress we have almost without variation applied 50% of our New Developments appropriation to a program of reseating. Thus each year a number of rooms are brought up to the most efficient seating standards with American Universal Movable Desks. So that each year some of our classrooms are made new, and the penalties of obsolete seating are eliminated. For a relatively small annual expenditure in comparison to the total cost of education, we are enabled to give our students seating that is posturally correct and a definite aid to their health and efficiency."

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The American Universal Desk is scientifically designed to induce good posture—to make erect sitting natural and comfortable — to prevent slumping which crowds vital organs. It has features that definitely assist in sight conservation — and other important improvements for the physical and mental welfare of the student. Years of experience and scientific research are behind it. The detailed facts are yours for the asking.

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Send the coupon ... and we will mail you free a three-color posture poster, size 17½ by 25 inches which shows children why they should sit *erect.* Teachers, principals or superintendents will be supplied with a poster for each classroom on request. With them, too, any of the following authoritative, instructive and interesting booklets: *"Essentials of Hygienic Seating",* which shows what constitutes good and bad posture, the relation of seating to posture, adjustment of seats, desks, and lighting and seating arrangements . . . *"Ideals and Standards of Classroom Seating",* covering the essentials of good seating and the grade distribution of school desk sizes . . . *"The Relation of Posture to Tuberculosis"* . . . *The Buying of School Equipment"* . . . and *"Forty Years of School Seating."* Please use the coupon indicating the booklets you wish.

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School officials are often forced by public sentiment to reduce the school expenses by buying schoolroom equipment at the lowest price regardless of quality. In making such demands, the public overlooks the fact that while the actual expenditure for the year is less, such practice is often more costly in the long run because of necessary replacements.

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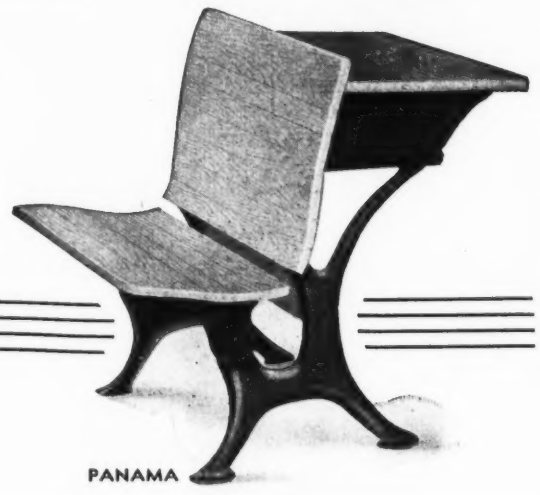


School Board News

♦ Providence, R. I. The school board has adopted new tuition rates for the schools, to be effective beginning with September 1, 1932. The rates are as follows:

Elementary Schools, $75; Kindergartens, one session, $50; Evening Technical School, four nights, $40, two nights, $25; four nights, half term, $25, two nights, $15; Evening High School, four nights, $25, two nights, $15; four nights, half term, $15, two nights, $8.

♦ Decatur, Ill. The school board has voted to discontinue the office of school business manager and to combine the duties with those of the superintendent of schools. The change involves a reassignment of the duties of the office, and will result in a saving of $10,000 a year in salaries.

♦ The members of the first elected board of education at Springfield, Ill., were guests of honor June 1, at a special program commemorating the paying off of the last bonds on the Palmer and Lincoln schools. The members of the first board were Mrs. S. J. Hanes, Mrs. Mary Morrison, Mr. H. M. Smith, Mr. Edward Anderson, Mr. Anton Elshoff, Mr. R. E. Woodmansee, and Mr. Fred C. Dodds.

♦ Washington, D. C. The board of education has approved a plan providing for a reorganization of the night schools, making it possible for students to receive the certificate privilege of admission to college. Under the plan, which becomes effective in September, the evening-school year will have 108 evenings instead of 90, and the opening date, vacation periods, and holidays will conform with the day schools.

Each evening-school student, under the plan, will be able to earn a standard diploma in five and one-half years. A student who needs a standard diploma to enter certain fields of work will have the opportunity of earning it. The new plan will eliminate the uneconomical maintenance of small classes toward the end of the year, and will provide more extensive and adequate instruction for students desiring to continue their attendance throughout the evening-school term.

♦ Madison, Wis. Local dealers in school equipment will be favored by the board of education in the awarding of contracts in the future, under a new policy recently adopted by the board. The action was taken following complaints of local dealers that they had been discriminated against in the letting of past contracts.

♦ Milwaukee, Wis. Consolidation of the school-board purchasing department with the city's central board of purchases has been proposed by City Purchasing Agent Joseph W. Nicholson, as an economy measure. Mr. Nicholson made the claim that a 15-per-cent saving in the cost of school supplies would be effected as a result of the merging of the two purchasing departments. Under the present plan, Mr. A. S. Schroeder does the buying for the school board and is a member of the central board of purchases.

♦ Milwaukee, Wis. The instruction committee of the school board has rejected a proposal of the taxpayers' advisory council, that summer schools be discontinued as an economy measure. The school officials were able to prove that such action would be temporary and false economy, which would result in increased expense for instruction and school maintenance during the next school year. The school board has approved a summer-school schedule, eliminating the first three grades and clerical help for principals. A salary schedule has been adopted, providing for a salary of $5 a day for grade teachers, $7 for high-school teachers, $7 for grade principals; and $10 for high-school principals.

♦ Holyoke, Mass. The school board has reduced the summer-school term from six to five weeks, with a saving of approximately $350. In past years, the cost was $2,000 a summer, with the pupils paying $900 in tuition fees.

♦ Muncie, Ind. The school board has discontinued the summer school, with a saving of $3,700. The decision was hastened by the fact that Ball College had notified the school officials that it would not assign practice teachers to the schools this summer.

♦ Alton, Ill. The school board has adopted a tax levy of $448,000 for the next school year. Of the total, $342,000 is for educational purposes and $106,000 for building purposes.

♦ Fostoria, Ohio. The school board has approved a plan of Supt. J. M. Reed, providing for the reorganization of the fifth and sixth grades on the departmental plan. Under the plan, special teachers will teach each major subject, including geography, arithmetic, and history.

♦ Peru, Ind. The school board has made arrangements for a summer school for children of the grade schools. The classes will be open to students who have lost time in school.

♦ Louisville, Ky. The school board has opened a summer school for pupils of the junior and senior high schools. A tuition fee of $6 will be charged for each course.

♦ Evansville, Ill. The officials of the city and public schools have considered a plan providing for the coördination of all purchasing activities of local governmental institutions. The new coöperative purchasing plan has for its purpose a reduction of expenditures and lower taxes.

♦ Fostoria, Ohio. The board of education has been granted a new charter by the state education department. The charter permits the establishment of a six-year high school in the city.

♦ Old Orchard, Me. Under a new rule of the school board, new pupils will not be received during the last weeks of the school term. It was the opinion of the school officials and teachers that the late entrance of new pupils leads to additional expense and creates a condition detrimental to the pupils themselves.

♦ Gary, Ind. The school board has proposed that the school year be shortened as a means of saving several thousand dollars in the next year's budget. The shortening of the school year would cut another 10 per cent from the teachers' salaries and would effect a saving of approximately $150,000.

♦ Bucyrus, Ohio. The school board has undertaken plans for a new economy program for the next school year in order to meet a critical financial situation. The board is faced with a reduced budget due to the change in the tax laws and a reappraisal of real estate, an indebtedness of over $17,000 borrowed from the local banks, and a bonded indebtedness of $37,000. The new program calls for a reduction in teachers' salaries, the elimination of teachers, and the combining of classes.

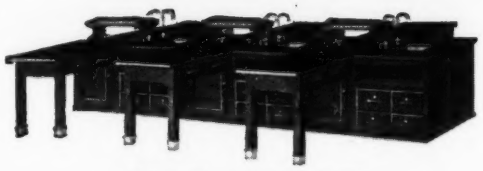
♦ Memphis, Tenn. The school board has effected a saving of $133,369 in the school payroll through a reduction in the number of teachers. The total saving of the board, including the salaries donated by teachers, will amount to $388,591. The reëlected teachers agreed to donate their August salaries for the present year and for the next school year.

♦ Collinsville, Ill. The school board has adopted an economy program, providing for a reduction in janitors' salaries and the elimination of some positions.

♦ Joliet, Ill. The president of the school board anticipates a saving of from $80,000 to $100,000 in the new school budget, as compared with last year. The reduction has been made in anticipation of a shortage of funds due to tax delinquencies and a reduction in taxes.

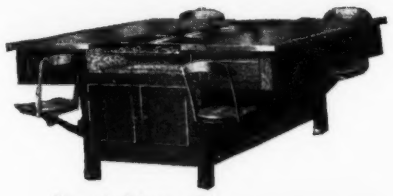
♦ Northampton, Mass. In lieu of the regular summer school, the school board has allowed teachers to conduct classes for pupils needing help, provided the

Chemistry Table No. D-764



Lincoln Science Desk No. D-503

Drawing Table No. L-2028



Domestic Science Table
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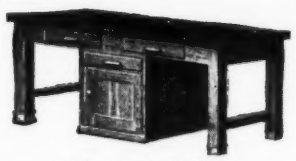
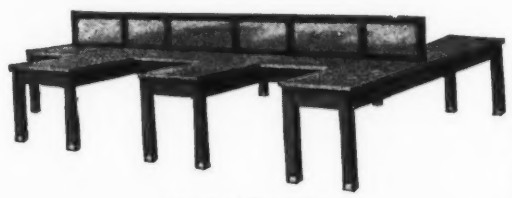


Biology Table No. C-307

Tool and Board Case
No. L-2072

Storage and Display Case
No. G-1358



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parents pay for the tuition. The regular summer session was discontinued as an economy measure.

♦ Boston, Mass. With the coöperation of the school board and the local painters' union, more than 300 union painters on the city's welfare list were given outside work on 60 schoolhouses, beginning with June 5. In starting the work at an early date, the work of the city welfare department was relieved and considerable work was completed by the time the schools closed.

♦ Ann Arbor, Mich. The board of education has adopted a budget of $682,696 for the school year 1932–33. Of the total budget, $97,200 will come from outside sources, leaving $585,496 to be raised by taxation. The board has proposed an extra 1-mill levy to guard against an excessive deficit.

♦ Minneapolis, Minn. The school board has voted to abandon the summer session for elementary pupils for the present year, as an economy measure. High-school students will attend summer school but will be required to pay $6 for each subject.

♦ Portland, Oreg. The board of education has asked the voters to approve a special tax levy of $1,200,000 at a school election, in order to keep the schools in operation. The board has reduced salaries and cut expenses wherever possible, so that the proposed levy is necessary to maintain the school property and the efficiency of the school system.

♦ Bay City, Mich. The school board has adopted a budget of $844,956 for the next school year, which represents a cut of $347,554 in expenditures for the year. The largest single item to be reduced was the $100,000 bond-sinking-fund item. Teachers, janitors, and incidental salaries were cut $128,340.

♦ The Circuit Court at Charleston, W. Va., has recently rendered a decision to the effect that the state board of education had exceeded its authority in making changes in textbooks for the four subjects taught in the state elementary schools. The decision was given in denying a motion to dissolve a temporary injunction granted to Tax Commissioner T. C. Townsend, to restrain the state board from proceeding further with textbook changes. Mr. Townsend had asked for the injunction on the ground that the changes were illegal because more than 30 per cent of the books were changed, and because under present business conditions, such changes were against public policy.

♦ Willimantic, Conn. The town school board has approved a school budget of $195,000 for the next school year. The total budget is $20,000 less than that of last year. The item of teachers' salaries has been reduced from $98,039 to $11,405, while the total cost of schools has been reduced by $35,000.

Teachers' Salaries

TEACHERS' SALARIES MAINTAINED IN 1932–33

The research division of the National Education Association has issued a compilation of cities in which the present salaries of teachers will be maintained or increased during the next school year. The cities listed include (1) those expecting to grant salary increases to teachers, and (2) those who will pay teachers the same salaries as were received in 1931–32.

Of the total list of cities in the several states, 7 states had the largest number of cities reporting on salaries. California listed 32 cities; Connecticut, 42; Massachusetts, 57; New Jersey, 84; New York, 95; Ohio, 22; Pennsylvania, 95.

Among the larger cities represented in the list are the following: Albany, N. Y.; Bayonne, N. J.; Bay City, Mich.; Birmingham, Ala.; Chattanooga, Tenn.; Camden, N. J.; Chicopee, Mass.; Chelsea, Mass.; Council Bluffs, Iowa; Chicago, Ill.; Columbus, Ga.; Denver, Colo.; Elizabeth, N. J.; East Orange, N. J.; Everett, Mass.; Evansville, Ind.; Fall River, Mass.; Galveston, Tex.; Holyoke, Mass.; Haverhill, Mass.; Hartford, Conn.; Indianapolis, Ind.; Jersey City, N. J.; Jacksonville, Fla.; La Crosse, Wis.; Lewiston, Me.; Lexington, Ky.; Memphis, Tenn.; Norristown, Pa.; Newcastle, Pa.; Newburgh, N. Y.; Niagara Falls, N. Y.; New Brunswick, N. J.; Newark, N. J.; Orange, N. J.; Oak Park, Ill.; Oakland, Calif.; Pawtucket, R. I.; Pittsburgh, Pa.; Philadelphia, Pa.; Poughkeepsie, N. Y.; Paterson, N. J.; Passaic, N. J.; Pittsfield, Mass.; Peoria, Ill.; Quincy, Mass.; Roanoke, Va.; Reading, Pa.; Scranton, Pa.; Springfield, Mass.; Stamford, Conn.; Tulsa, Okla.; Wilmington, Del.; Williamsport, Pa.; Wilkes-Barre, Pa.

The largest cities heading the list were Albany, Indianapolis, Pittsburgh, Philadelphia, and Chicago.

TEACHERS' SALARIES

♦ Pittsfield, Mass. The school board ordered a cut of four weeks from teachers' salary schedules, amounting to about 25 per cent for the sixteen weeks of the remainder of the school year. The reduction added about $60,000 to the school budget.

♦ Martins Ferry, Ohio. As an economy measure, the school board has voted to dismiss all married women teachers and allow the positions to remain vacant.

♦ Dayton, Ohio. The school board has reduced the size of the school staff, with the elimination of all supervisory positions. A reduction of 60 was made in the staff through resignations, and failure to reappoint instructors. The former supervisors have been appointed to principalships, or teaching positions.

♦ Oklahoma City, Okla. Forty-two teachers, including 20 married women teachers whose husbands live in other cities, have been eliminated from the school staff for the next school year. New contracts have been given to more than 900 instructional employees.

♦ El Paso, Tex. Teachers' salaries will be reduced by 25 per cent from the schedule of 1930–31. Under the new schedule, teachers will receive 15 per cent less than in 1931-32. The superintendent of schools has taken a 16 per cent cut in salary.

♦ Tulsa, Okla. The board of education recently paid two salary installments to teachers who are paid in twelve installments for the nine months of teaching service. The May 31 warrants were taken up through the sinking fund of the board. Teachers who had resigned from the service of the schools were paid in full at the close of the school year in June.

♦ Columbus, Ohio. The board of education has voted a uniform reduction of 12½ per cent in teachers' salaries, making a saving of approximately $480,000 for the next school year. Additional savings to be effected by various economies in operating expenses will bring the total saving up to $600,000.

♦ Cleveland, Ohio. The board of education has ordered large reductions in the salaries of the executive staff, as a measure of economy. Under the new economy program, a 22-per-cent cut was made in the salaries of the superintendent of schools, the school business director, and the clerk-treasurer. Other reductions were 20 per cent on salaries of from $7,500 to $8,500, 17 per cent on salaries of from $7,500 to $5,000, and 15 per cent on salaries of from $4,000 and $5,000.

♦ Rochester, N. H. All teachers, janitors, and the superintendent of schools have been reëlected for the next school year, at the same salaries. Automatic increases and bonuses for summer work have been suspended for the next year.

♦ Kent, Ohio. The board of education, at a recent meeting, adopted a resolution offering new contracts to the teachers of the public schools. The contracts provide for a shortening of the school year and a 10-per-cent reduction in all salaries, a flat reduction of 5 per cent on the remaining salary, and a suspension of the sick-leave provision for a period of one year.

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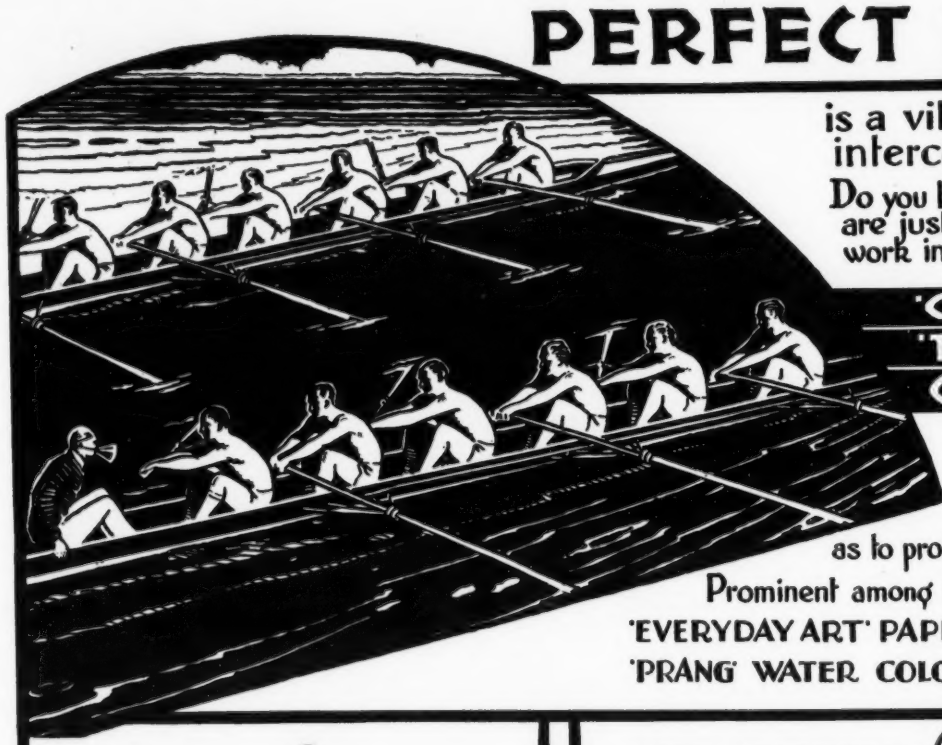

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The contracts provide for a further decrease in case the tax collections fall off to such an extent that the salaries cannot be paid next year. The action was taken to meet an anticipated shortage in school funds due to lower real-estate values and a reduction in school-tax money.

♦ Minneapolis, Minn. The school board has adopted a recommendation, providing that the automatic salary increases for teachers, principals, and supervisors be restored in their entirety as of January 1, 1933, for the purpose of establishing the basic figures from which a deduction or deductions may be made at any time whenever such deduction or deductions may become necessary in the opinion of the board by reason of a reduction in the amount of money available for teaching service. The board has rescinded its previous action providing for the adoption of assignment and contract forms.

♦ Portland, Me. The local teachers' association recently voted to contribute 10 per cent of their salaries for September, October, November, and December, in order to help the school board in absorbing the $49,000 cut levied by the city council. The action was taken by the teachers in order to prevent a serious curtailment of school activities due to the reduction of the budget.

♦ Mexico, Mo. The school board has voted to employ the teachers on the basis of receipts from the teachers' fund during the next school year. It means that if sufficient money is collected, they will receive their full salaries, but if not, they will receive a pro rata amount of the money collected, which is identical with a cut in the annual salary. The monthly rate of compensation would remain the same under the pro rata plan.

♦ Rockford, Ill. The teachers and school employees recently offered to donate one month's service without pay in order to keep the schools open for the regular forty weeks. The action saved the taxpayers about $90,000 and prevented the schools from closing because of a serious shortage of funds. The school board voted to reappoint all teachers for the next school year, with a 10-per-cent reduction in salary. A clause was inserted in the contracts which gives the board the right to further reduce salaries in case the funds are insufficient for the operation of the schools.

♦ Des Moines, Iowa. Reductions of 10 per cent in the salaries of teachers and school employees have been ordered by the board of education for the next school year. The board voted against the employment of married women other than those now in service. Married women with other means of support will not be reëmployed. The reduction affects all employees receiving more than $1,200 a year and will result in a saving of $210,000 for the year.

♦ Des Moines, Iowa. The school board has effected a saving of $210,000 in the salary budget for the next school year. The reduction was made by cuts of 10.7 per cent in the salaries of 1,150 administrators, supervisors, principals, nurses, clerks, librarians, and janitors receiving an annual salary of more than $1,000.

♦ Beaver Dam, Wis. Teachers in the schools receiving more than $1,200 a year have accepted a 5-per-cent cut in salary for the school year 1932–33. All janitors were asked to accept a reduction of 10 per cent and their salaries will be paid on a month-to-month basis.

School Building News

♦ Jefferson, Iowa. The voters of the city recently approved a school-bond issue of $40,000 for the erection of a new school.

♦ Chattanooga, Tenn. Supt. A. L. Rankin has presented a statement to the Hamilton county officials, giving recommendations for a ten-year school-building program to involve an expenditure of $736,000. The recommendations were based largely on a survey of the county school buildings and facilities in 1929, made by Dr. George D. Strayer, of Columbia University. The program consists of a first and second five-year division of the work, with a list of the projects needed and the amount of building tax necessary to finance the construction.

♦ Maplewood, Mo. A school-bond election was carried by the voters of the city on June 7. The bond issue, which was for $152,000, will be used in financing a school-building program involving one new school and additions to two other buildings.

♦ Fort Wayne, Ind. The school board has outlined the new maintenance-and-repair program to be carried on during the summer months. The program provides for redecoration work in five buildings, repairs, varnishing of desks, plastering, whitewashing, repair of window shades, and general cleaning. One half of the force of janitors and custodians will work at the repairwork in the buildings in June, taking a month's vacation in July. The remainder of the force will carry on the work in July but will take a vacation in June.

♦ Elyria, Ohio. The school board has awarded contracts for the construction of an elementary school, to be completed at a cost of $50,000.

♦ Newton, Iowa. The school board has outlined a program of repairwork in the schools, to be completed during the summer months at a cost of approximately $3,000. The work will comprise a number of minor improvements, including roof repairs, new equipment in the school washrooms, new curtains, the painting of windows, and changes in the heating plants.

♦ Duluth, Minn. The board of education has adopted a summer repair and maintenance program for the summer months, involving an expenditure of $43,796. The expenditure this year is only a little more than one half of the sum expended for the same purpose a few years ago.

♦ The school board of Evansville, Ind., has begun suit in the Superior Court to recover approximately $207,000 in school funds which have been tied up in three closed banks. The suit was directed against the surety companies which had signed the depository bonds in the closed banks.

♦ New Bedford, Mass. The mayor of the city has refused to approve any appropriation for the relief of overcrowded conditions in the local high school. A plan which proposed the transfer of commercial classes to two other schools was dropped when it became known that the cost would reach $17,000. The city is faced at the present time with a shortage of funds and all appropriations for city expenses must be cut to the limit.

SCHOOL FINANCE COMMITTEES NAMED

William J. Cooper, United States Commissioner of Education, has announced the appointment of committees in each state who are to work with the National Survey of School Finance. These committees, which include state legislators and officials, school officials, university professors, and other persons, will study problems of school financing pertaining to each state. It has been deemed advisable to invite participation by state "contact" groups.

Expert leaders in each state will be asked for advice from time to time by the national survey research staff and each state committee will meet with the Commissioner of Education, or with Dr. Paul R. Mort, associate director.

Special federal funds for the survey have been provided until July, and the remainder of the work will be financed by funds from private sources.

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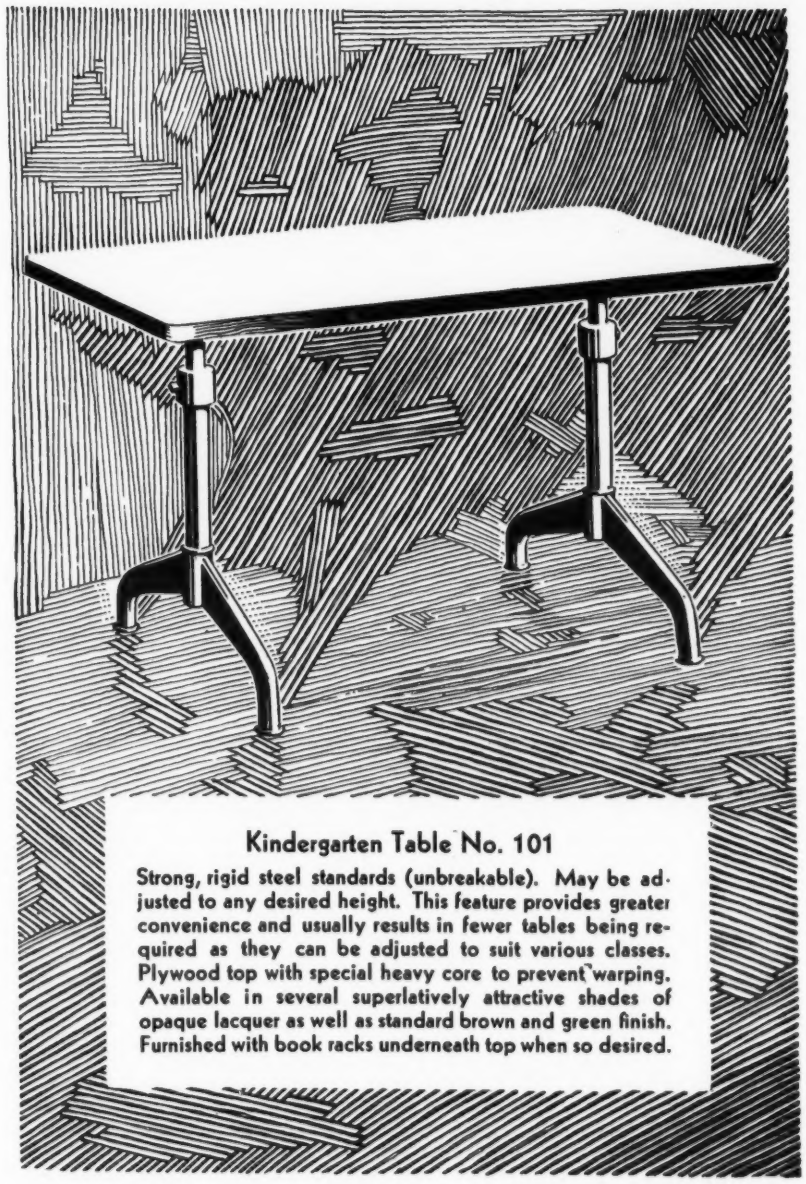

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Teachers and Administration

♦ Saratoga Springs, N. Y. An extension course for teachers has been maintained in the schools for the past two years. The course is regularly conducted by Dr. W. T. Melchior, of Teachers' College, Syracuse University, and during the entire period of time has enrolled from 70 to 90 per cent of the teachers as students. Only two teachers on the staff failed to enroll for one or more semesters of work.

♦ Lima, Ohio. The school board has adopted a revised salary schedule, calling for a reduction of 5 per cent in teachers' salaries. Salaries begin at a minimum of $104.50 a month and range up to $422.75 a month, exclusive of the salary of the superintendent of schools. All salaries were figured on a school year of nine months, but teachers receive their contracts on a monthly basis.

♦ Kalamazoo, Mich. The school board has adopted a report of the educational committee, providing for new rules governing the selection and appointment of teachers.

Under the rules, teachers to be eligible to appointment must have a normal-school or college education, or its equivalent, and must have at least one year of successful experience in schools of acceptable rank. At the discretion of the board of education and the superintendent of schools, the year of experience previous to appointment is not required, especially in the case of kindergarten and manual-training assistants and assistants in physical education.

Teachers will be paid one twelfth of the annual salary upon the first of each month, except July, August, and September. At the close of the school year in June, the teachers will receive the tenth and eleventh installments of their salary, and on or about the fifteenth of July following they will be paid the twelfth installment. Any teacher whose length of service does not cover the full time of the contract will receive as many four hundredths of the eleventh and twelfth installments as the number of days actually taught.

Any teacher appointed, under the rules, for less than a year, will receive as many two hundredths of the eleventh and twelfth installments as there have been days actually taught by her under the contract.

All teachers will be given a written notice of election. Failure to sign and return the contract by the date specified in the notice will be considered a declination and the position will be declared vacant.

♦ Oshkosh, Wis. The school board has ordered a 10-per-cent reduction in the salaries of substitute teachers for the next school year. Teachers who substitute in the high school will be paid $6 a day, and those in the grammar grades $4.50 a day.

♦ Hammond, Ind. Mrs. Frances Frye, a former teacher in the city schools, has won her suit to collect $10,000 from the school system for a breach of contract. Mrs. Frye was able to prove that she had taught for eight years in the schools and that she had therefore passed the five-year term necessary to qualify under the teachers' tenure act. The decision, which was given in the superior court, overruled a demurrer of the school board's attorney who alleged that the teacher lacked permanent status on the teachers' roster.

♦ Tacoma, Wash. The employment of married women by the school district has become an important issue in the community. Supt. E. L. Breckner has been asked to undertake a study of the employment of married women as a factor in the present economic situation. The study was ordered preliminary to the adoption of a definite policy in the matter and as an effort to effect a reduction in the number of such teachers.

♦ Conneaut, Ohio. The school board has voted not to employ married women teachers during the next school year, due to the present economic situation.

♦ Shrewsbury, Mass. The school board has voted to eliminate married women teachers who have other wage earners in their homes. Single women will be substituted for married women in each case.

♦ Fairfield, Ill. The school board has adopted a new policy which is directed against the employment of married women teachers in the schools. The action was taken in view of the depression and was intended to eliminate teachers who have other sources of support than their profession.

♦ The teachers of Nutley, N. J., contributed more than $5,000 to relief work in the local community during the past year. The teachers plan to increase the amount materially during the next year.

♦ Superior, Wis. As an economy measure, the school board has approved a retrenchment program, providing for a cut of from 10 to 12 per cent in teachers' and principals' salaries, the elimination of automatic salary increases, and employment on a month-to-month basis. The economies will result in a saving of approximately $80,000.

♦ Tulsa, Okla. The school board has passed a rule, requiring that all school employees live in the school district during the school year.

♦ Manchester, N. H. The school board has inserted a clause in teachers' contracts, reserving the right to cancel the contracts, or to reduce salaries, at any time after December 31 of this year. The action was taken because of the uncertainty regarding the amount of school funds to be obtained during next school year.

♦ Tacoma, Wash. The school board has voted against the reappointment of ten married women on the school staff. The remaining married women, who were found in need of gainful occupation, will be reappointed. All teachers' contracts will contain a clause which gives the school board the right to readjust salaries at any time upon thirty days' notice. Teachers, in turn, are allowed to terminate their agreements upon fifteen days' notice.

♦ Waterbury, Conn. A change has been made in the pension-fund rule which eliminates the age of 60 for retirement purposes. Under the new rule, a teacher in the enjoyment of good health may continue teaching until the age of 70.

♦ Duluth, Minn. The school board recently voted to shorten the school year by two weeks, eliminate summer elementary and evening schools, and charge tuition for junior and senior high-school summer classes, as economy measures. The economy measures will result in a payroll cut of more than 5 per cent and were made to obviate a direct reduction in employees' salaries.

♦ San Antonio, Tex. Twelve hundred school teachers recently refused scrip and demanded cash in payment for their services. The proposal was made by the board in order to obviate a $1,000,000 deficit at the close of the school year 1931–32. Mr. Roger Stokes, president of the board, explained the board's financial situation and showed that it needed the $550,000 to meet the current payroll and to avoid a larger deficit. He pointed out that a loan at the banks would mean that the next year's budget would be compelled to provide for repayment of the loan.

SUMMER-SCHOOL ATTENDANCE

Dr. Francis Crowley, of the Saint Louis University, made an interesting statement recently, when he said that the depression should stimulate teachers to attend summer schools in spite of reduced salaries and other difficulties. The teacher who fails to make use of every opportunity to improve herself during these troublesome times is simply increasing the opportunity for the young, newly trained, and able teacher to compete for positions and for promotions. It will be wise for the experienced teacher to make use of every opportunity to further her professional education during these troublesome times.

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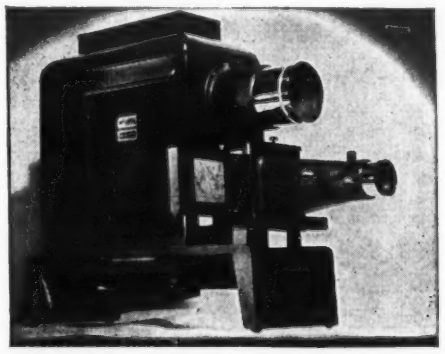

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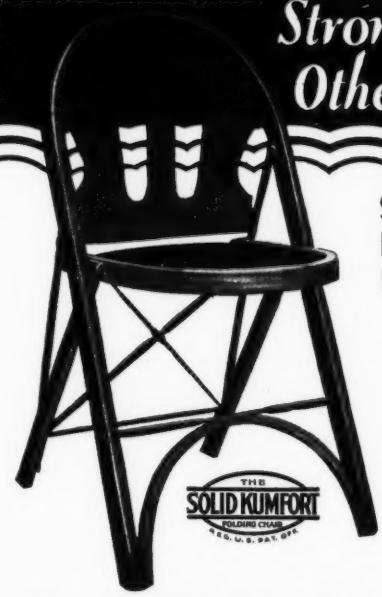

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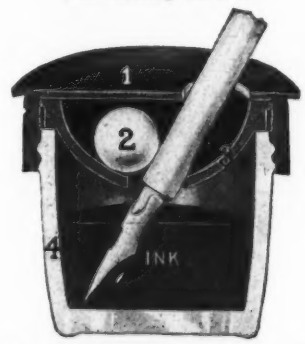

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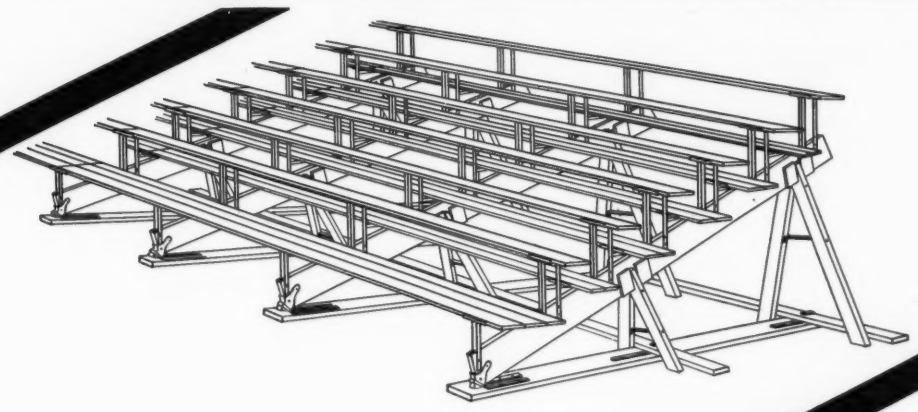

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Book News and Reviews

SCHOOL TEXTBOOK SALES CUT

The sale of textbooks to schools, particularly the public schools, declined 15 per cent between July and December, 1931, according to information released by the United States Office of Education and reproduced in the *United States Daily*.

The decline is due in part to the "unwise attempt at economy" by school systems, Dr. William John Cooper, Commissioner of Education, stated orally in describing as a "foolhardy practice" the failure to buy books when needed.

The net sales of textbooks sold by 42 leading publishers dropped from $22,977,001 during the six months' period between July and December, 1930, to $19,487,457 for the corresponding period in 1931, E. M. Foster, chief of the division of statistics, announced. If sales from January to July, 1932, which have not been tabulated, show the same drop, the total decrease for the year will probably amount to $7,000,000.

Dr. Cooper said that "school systems are storing up future trouble for themselves by refusing to replace dilapidated books when they should be replaced."

"At present," he continued, "textbooks and similar supplies amount to but 3 per cent of the average school budget. Administrators who think they can introduce a saving by not purchasing as needs arise, but instead try to get along with ragged, torn, and sloppy books, will ultimately face a serious replacement bill involving very large expenditures."

In commenting on the significance of the decline in sales, Mr. Foster said:

"An adequate and up-to-date set of textbooks should be a part of the equipment of every school, whether the books are owned by the school board or by the pupils.

"Books are part of the tools with which the students learn. To let this equipment depreciate either in quality, condition or amount is to postpone a cost to a future time which is justly chargeable to the current year."

"Every effort should be made," Mr. Foster added, "to maintain a high standard of textbook equipment."

The following additional information was supplied by Mr. Foster.

Every month between July and December showed a decline in textbook sales. There was a 12.8 per cent drop in July, an 18.5 per cent drop in August, and approximately a 10 per cent drop in September. The decrease in October was 14 per cent, in November 25 per cent, and December approximately 22 per cent.

Sales in July declined from $3,415,784 in 1930 to $2,977,460 in 1931; in August from $6,195,131 to $5,-046,360; in September from $6,920,877 to $6,230,138; in October from $3,345,053 to $2,871,608; in November from $1,736,907 to $1,297,720; and in December from $1,363,249 to $1,064,189.

College textbook sales remained practically what they were in 1930.

Twenty-four publishers reported both the number of books sold and the net value of the sales. The decrease for the six months in 1931 over the same period in 1930 was approximately 13 per cent both for number of books and value for this group of companies.

These firms sold during the period in 1931 a total of 14,252,857 textbooks compared with 16,455,498 in 1930. The value of net sales for these companies declined from $10,866,360 to $9,452,127 during the period.

NEW BOOKS

An Experimental Study of the Educational Influence of the Typewriter in the Elementary-School Classroom

By Ben D. Wood and Frank N. Freeman. Cloth, 224 pages. The Macmillan Co., New York City.

The purpose of this investigation was to study the nature and the extent of the educational influences of the portable typewriter when used as a part of the regular classroom equipment in the kindergarten and the elementary-school grades. The authors, who are experienced educators and research men, carried on the study with teachers and trained assistants in the public schools of eight cities and in eight carefully selected private schools. Of the pupils, 8,824 were in control groups and 6,125 were in experimental groups. Of the teachers, 239 were in the control and 180 in the experimental groups. The studies were intended to develop the results of a full year's work as noted by carefully selected achievement tests and teachers' judgments. The opinions of children themselves toward the classroom typewriter were carefully sought.

The experiment was extended to all the subjects in which the typewriter could be conveniently used. Instruction in the use of the machine was informal and only late in the trial were some of the children shown how to hold their hands and how to strike the keys with their fingers. To make possible comparison of results, the classes chosen were of similar social and racial backgrounds, approximately equal in intelligence and chronological age.

The study shows that the children developed a valuable skill in the use of a typewriter as an asset for later life. They learned to operate the machines with fair readiness and developed for their ages remarkable speed and accuracy in typing. The study sought to determine the progress made by the children in all subjects. It was generally noted that the experimental group of classes excelled the control group, but this was probably due to the fact that the former had superior teachers. The records of the classes show that the typewriter groups gained in a superior manner in a number of subjects, but not all of the gains could be attributed to the use of the typewriter. Perhaps the most interesting and encouraging finding was that the children gained normally in handwriting, and the typewriter was in no way responsible for a reduction in the quality and the rate of handwriting. This finding was contrary to the anticipated result and was especially welcome because of the growing importance of handwriting in adult life. Another important finding was the stimulation in the projects of written work. The pupils of the experimental group produced far more written materials than those in the control group.

Both teachers and pupils testified at the end of the second year of the experiment to the favorable influence of the use of the typewriter and to the pupils' enthusiasm for the use of the typewriter. The results of the study are summarized by the authors as follows:

"The study as a whole presents strong evidence, (1) that it is feasible to use the typewriter in the conduct of the ordinary work in the elementary school, (2) that the use of the typewriter in the informal fashion in which it was employed in this study produces an average typing speed approximately equal to the average handwriting rate in each grade, and also yields a very considerable degree of typing accuracy at the end of one year's use, (3) that the use of the typewriter stimulates elementary-school pupils to produce more written material than they would otherwise produce, (4) that the classroom typewriter, as used in this experiment, entails no loss in handwriting quality or handwriting rate, (5) that it probably raises

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should be considered

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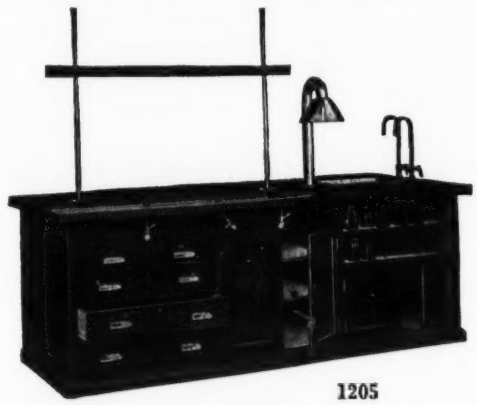

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in some measure the level of achievement in some of the fundamental school subjects, without observable loss in any subject, and finally, (6) that the teachers regard the typewriter as a valuable educational instrument and approve its use in their own classes, while the pupils enjoy typewriting and look upon the typewriter with marked favor."

A Preface to Literature

By R. R. Greenwood. Cloth, 110 pages. Price, 80 cents. The Macmillan Company, New York City.

This is a brief survey of literary forms — an outline or résumé for a course in literature. It contains explanations and comments such as some teachers present in the form of lectures. While most of the information may be obtained from a standard textbook for the study of literature, it is well to have it collected in a handy volume.

The comments on the various literary forms are concise and lucid. It is regrettable that in a few instances, unqualified praise may lead students to read certain authors with whose works they had better not be acquainted.

Campbell's Speller and Business Vocabulary

By Edina Campbell Dover. Cloth, 205 pages, Price, $1.25. Published by the Hickox Secretarial School, Boston, Mass.

This speller has been prepared by the author as a result of years of teaching experience in high school and college, and later as principal of a commercial school for the preparation of young people for business positions. The book, which departs radically from tradition and from the general rules of orthography, aims to offer a practical word book with a working vocabulary, to those who have finished grammar school but who do not expect to go on to college. It is suitable for high-school or preparatory students, secretaries, business men and women, and commercial students.

The book contains material for effective drill in homonyms, foreign prefixes, the treatment of the consonant before the final syllable, a general alphabetical word list, and work in obscure meanings, synonyms, and the like. Illustrative sentences are given in certain instances where the meanings of the words appear to be obscure.

New Approach to German

By Eugene Jackson. Cloth, 399 pages. Published by Longmans, Greene and Company, New York City.

Cultural considerations demand the return of the study of German back to the American schools. The present volume is designed to serve the junior and senior high schools.

If the text can make any claim of a new approach to the study of German that claim must be found in the fact that each lesson is a complete recitation and that the grammatical facts are simply and clearly stated.

The real merit of the text, it strikes us, must be found in the careful selection of words and sentences most necessarily employed in German speech, and the happy introduction of situations most likely to interest the student. The author makes excellent use of the charming *lieder*, poems, tales, and stories, found in such abundance in German literature.

A Journey to Many Lands

By Williedell Schawe. Cloth, 200 pages, illustrated. World Book Company, Yonkers-on-Hudson, N. Y.

This fourth-grade reader carries children to Norway and Sweden, Switzerland and Germany, Holland, Palestine, and finally to Japan. The two little travelers enjoy the sports and games of children in each of the countries visited, learn their living habits, and obtain intimate glimpses of their joys and sorrows. Throughout the book balanced habits of work, rest, and recreation are emphasized. By observing similarities and contrasts, American children are taught health habits suitable to our living conditions. The author has an interesting style and the illustrations are of a good quality.

Some Trends in City School Finance, 1932–33. Circular No. 5, May, 1932, of the Educational Research Division, National Education Association, Washington, D. C. The evidence presented in this report indicates that American education is experiencing a severe trial at the present time. While a number of school systems have thus far escaped, many cities are undergoing a period of retrenchment with little real connection with either savings or economies. The material presented is the result of replies to a special questionnaire of the research division. It shows that boards of education in 627 cities, or 45.2 per cent of the 1,383 cities, are expecting to increase, or maintain in 1932–33 the level of teachers' salaries paid during the past year 1931–32. The study includes cities allowing increments provided by the schedule, cities in which salary increments are being withheld, cities where slight adjustments are being made in some cases, leaving practically all salaries at the 1931–32 level. The report discusses in detail salaries, retrenchments in school systems, reasons for falling budgets, revenue shortage, budget changes, and proposed retrenchments during the school year 1932–33.

Report of the Committee on Public-School Cost Accounting of the National Association of Public-School Business Officials. Prepared by Mr. Paul H. Scholz. The present bulletin figures unit costs based on payments as reported to the Federal Government on standard fiscal schedule. The report, which is the result of a two-year study, discusses bases for unit costs, cost comparisons, use and value of unit costs.

School and City Current Expenses Compared, 1930. Circular No. 6, May, 1932, of the Department of Research, National Education Association. The pamphlet shows the total cost for running expenses of 310 city governments and city school systems, and the cost per capita of population for all departments and for schools. It indicates the per cent that school expense is of city expense and gives comparative figures showing what the total city expense for maintenance and operation is compared with school expense. The average for the 310 cities is largely controlled by the group of 13 cities over 500,000 population, which spend more than the other 297 cities combined.

Pathways in Science Series Announced

A series of six books dealing with the sciences have been brought under the general designation of Craig's *Pathways in Science*. They are entitled: 1. We Look About Us; 2. Out-of-Doors; 3. Our Wide, Wide World; 4. The Earth and Living Things; 5. Learning About Our World; 6. Our Earth and Its Story.

The publishers, Ginn and Company, have adopted a unique plan of announcing this splendid effort through the medium of a so-called specimen volume. This contains enough of the text of each book to give the prospective purchaser of the complete series an idea of their contents.

The books are designed to provide organized science training in all the grades of the elementary schools. The text is phrased in simple language, set in large type, and well illustrated throughout.

Training Programs and Instruction Sheets for Janitors and Low-Pressure Engineers. Compiled by Herbert Chellis, W. T. Brown, H. E. Cooper, and Edgar Elder. Price, 50 cents. Printed by the Wiggins Trade School, Los Angeles, Calif. The material is extensive in scope and well arranged and is intended to furnish a comprehensive training course for janitors and custodians. Each instruction sheet comprises a list of tools and materials required, an outline of operating steps, and trade applications, and a list of questions pertinent to the subject.

FOR ALL MAINTENANCE CLEANING

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There is no necessity for bothering with one cleaning material for painted surfaces, another for mopping floors, still another for cleaning tile and enamel. Wyandotte Detergent alone can be safely used for cleaning all school surfaces. It quickly demonstrates its safety, efficiency and economy.

Wyandotte Detergent is a product of the world's largest manufacturers of specialized cleaning materials. It is scientifically designed to clean quickly and safely. In a test a painted surface has been cleaned with Wyandotte more than 200 times before the paint showed any wear.

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SALES OFFICES IN 30 PRINCIPAL CITIES

SCHOOL-BUSINESS OFFICIALS' ASSOCIATION ATTAINS ITS MAJORITY

(Continued from Page 44)

ples rather than rushing into every enterprise which is proposed under the guise of progress.

Janitorial Problems

Two Californians shared honors for the very practical discussion of janitorial problems at the Thursday morning session. Mr John T. Cate, business manager of Glendale, Calif., developed seven basic questions concerning the employment, wages, working load, and improvement of janitorial service. Mr. Howard A. Campion, principal of the Wiggins Trade School, Los Angeles, described the training courses for janitors, first devised by Mr. Wm. E. Record and carried on in the Trade School with revolutionary results. The courses of instruction which are open both to men and women "on the job" and to prospective janitors have entirely changed the quality of cleaning and maintenance, and have developed an occupational pride and personal self-respect that have made the Los Angeles janitor force the leaders, with Minneapolis, among the large cities.

Friday Session

Enough material for an entire convention was crowded into the Friday session which lasted from nine o'clock well into the afternoon. Pittsburgh, Pa., uses a "paymaster account" plan of handling the monthly payrolls. As described by Mr. H. W. Cramblet, secretary of the Pittsburgh board of education, the plan has the advantages of a minimum of red tape, accuracy, and speed. The plan used in Omaha, Nebraska, described by Miss Bird, is more involved due to legal requirements.

Dr. Thomas R. Cole, professor of school administration in the University of Washington, aroused considerable enthusiasm by his rapid-fire discussion of "Educational and Financial Adjustments in Our Educational Program." On the basis of ten years' experience as head of the Seattle school system and two years' service as consultant of smaller school districts in the State of Washington, he argued ten points.

Needed School Economies

Dr. L. H. Peterson, of the University of California, in discussing "School Economies" suggested that economy does not consist in parsimony but value for value.

"Retrenchment in the amounts to be expended for education is a policy to be taken only after the most careful study by individuals who are professionally qualified to evaluate the various activities of the public schools. I know many situations in which no evaluation has been attempted and yet large amounts have been cut from the school budget which will inevitably result in indiscriminate elimination or curtailment of the work of the school.

"It is to be deplored that, first, schoolmen must need be confronted with the necessity of retrenching on educational expenditures, before they actually feel it is their duty to do so; second, that in too many situations no study had been made of the relative value of procedures or practices, nor the cost of the same. It appears that most practices designed to lower school budgets have been effected by the elimination of certain services, decrease of the personnel, limiting supplies and equipment, etc.

"I believe that there remains an almost unused possibility. We are attempting to run the schools of the twentieth century on too many principles and practices originating in pioneer days. Many of our so-called fundamental conceptions with respect to the actual work of the school must needs be revised; that curriculum and method need to be remade and extended in conformity with the ever-changing world. We are told on every hand that economic programs must be made in the light of present-day situations. I believe that school life must be more closely knit to economic and social life. It is claimed that Russian schools are attempting to achieve such a plan. . . . The present situation is calling for educational statesmanship. Many of our cherished notions concerning values shall probably be revised. It is not impossible that a radical revision, change, or elimination of procedures and practices in the school will not result from the present situation in which everything is being questioned. Drastic cuts in educational expenditures will force drastic changes in the administration and work of the schools. Things will be done that would have caused near panic in more prosperous times. Herein I can see values if they are only capitalized upon. I hope that the general attitude of mind will be such, that a universal attempt will be made to determine, and evaluate what, if any, differences result. If no discernible effects of major importance are in evidence — which I suspect in many instances may be true — some additional readjustments may be actually proposed, which will eventually free the schools from many of the traditions which now chain and govern professional thinking. The educator is usually a conservative. The lay public has been carefully nurtured upon certain ideas and notions without a factual basis. Dire need, when it comes, is no respecter of opinions and will not hesitate in dethroning cherished notions. It is to be hoped that needed research will be vigorously promoted, and not eliminated. We should know what has been done, and its effects, in order that we may know where to go."

In applying his discussion of current retrenchment Dr. Peterson showed specifically how large economies may be achieved in school insurance, building planning and construction, supplies, daily programs, small schools and school districts, the use of teachers for clerical services. In conclusion he said:

"There are a number of administrative readjustments which might well be tried out even though factual evidence is not in existence justifying such a recommendation at the present time. An evaluation of the results obtaining should be made.

"I believe that the philosophy of competition is too much in evidence in the management of schools. What one school does or offers, all too frequently is adopted as a pattern for others to follow. As a result the curriculum and course offerings of large schools are duplicated in the smaller schools, resulting in very many small classes, which in turn increase costs. A rule fixing the minimum size of a class for its organization might well be adopted for all the larger schools. In the smaller schools, subjects might be alternated much more than is being done. Subjects which draw a small number of students could be eliminated.

"There is still evidence that college-entrance requirements control the course offerings of high schools. A subject is offered at times for two or three students who plan to enter college. There is no justification in attempting to offer all the known courses. The solution of this problem may be effected by a classification of high schools into several groups, each group having limitations imposed. The student need then only select his school.

"It seems to me that there have been too many special teachers employed, with assignments very indefinite. I have never been able to justify floating teachers even in prosperous times.

"Another important administrative problem is equating of the teaching load. The relative difficulty of teaching the various subjects should be recognized and adjustments made by increasing the number of pupil contacts per teacher.

"School administration in the last analysis is a financial problem. There are many practices in the administration of schools which add materially to the costs of education that involve procedures based upon tradition or mere opinion.

Problems for Study

"Research studies might reveal the possibility of great savings in the expenditure of public funds without limiting the educational program or lowering the present standards of efficiency. I shall list a few of the more outstanding questions which seem to me should be given immediate attention:

I. Salary Schedules
   - A. Ratio of salary of administrative officers to teachers.
   - B. Ratio of teachers' beginning salary to maximum salary.
   - C. Number and amount of increments of increase.

II. Ratio of cost of administrative overhead to teaching cost.

III. Ratio of cost of supervision to teaching costs.

IV. Technique or method for evaluating educational efficiency in relation to costs.

V. Technique or method for computing depreciation of school plant, also obsolescence.

VI. Determination of standards for school-building construction.

VII. Method or technique for predicting school budgets.

VIII. A determination of the minimum number of reports and forms that are necessary and actually put to use, in pupil and cost accounting.

IX. A determination of the relative advantage of maintaining repair and maintenance departments. Should these departments become manufacturing units? How large a staff is necessary?

X. Determination and adoption of standards for janitorial service."

Business of the Convention

The Emergency in Depository Bonds was the subject of a thorough study presented in a paper prepared by Mr. W. C. Wehn, secretary of the board of education, Johnstown, Pa. The final paper, "Yardsticks and Barometers for Measuring Efficiency of School Business Administration," by Mr. N. Bradford Trenham, secretary of the Educational Commission of the California Taxpayers' Association, proved to be a fitting climax to the convention. The paper will be found on another page of this issue.

The Association unanimously elected its host, Mr. W. E. Record, as president for the coming year. Other officers elected are:

Vice-President, Joseph Miller, Jr., secretary of the board of education, New York City.

Secretary, John S. Mount, State Department of Education, Trenton, N. J.

Treasurer, Henry W. Huston, auditor, State Department of Education, Trenton, N. J.

Members of the executive committee, J. J. Ball, assistant superintendent in charge of business affairs, Denver, Colo.; Mr. Paul Scholz, business manager of the board of education, San Antonio, Tex.

Committee Reports

The Association accepted three important committee reports which are to be printed in pamphlet form. Mr. H. C. Roberts indicated that the report on "Insurance" will contain not only a summary of present practices of self-insurance and various forms of commercial, mutual, and state insurance, but will also suggest better methods and more businesslike handling, etc. Mr. R. W. Hibbert, chairman of the supply committee, reported that his committee has compiled its former studies and has added definite suggestions for handling purchases, warehousing, distribution, accounting. The preliminary draft of the committee on child accounting was made the subject of a round-table discussion led by Mr. Paul Scholz of San Antonio. The report suggests a practical extension of the principles laid down in Bulletin 24 (1928) of the U. S. Office of Education on Child Accounting. Under the heading of Measurements for Unit Costs, the committee suggested two standard measurements, namely, the widely accepted unit of "average daily attendance," and a new unit "student-hour," with preference given for the student-hour as the more accurate of the two measurements.

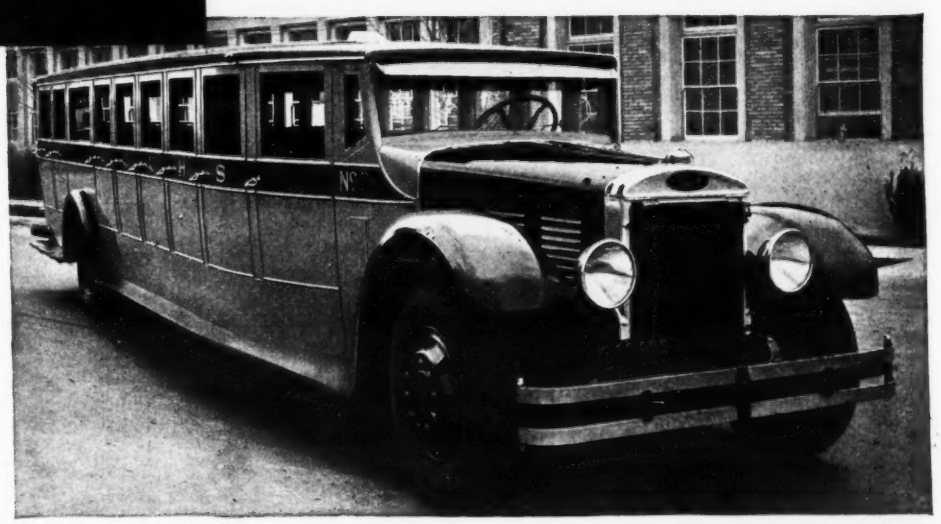
Under the heading of "Cost Comparisons Within City," the committee sought to standardize methods and technique for cost finding within a given school system, and cited the indirect charges embraced within the functional services as general control, coördinate activities, and auxiliary agencies.

The committee ascertained that the most valuable data may be obtained by setting up costs by grades and subjects within a given school building. The analysis involves a technique that is capable of arriving at a reasonably accurate distribution of the various functional elements based on payroll time and area or space occupancy. Besides costs within the building, it was recommended that certain data

(Concluded on Page 72)

PACIFIC COAST USERS

OF THE Mack SCHOOL BUS



It was on the Pacific Coast that buses were first employed on a large scale for school transportation. Here, also, progressive authorities quickly recognized the absolute necessity for quality buses. Through experience, this fact has become firmly entrenched;—highest quality assures maximum protection to passengers, unfailing dependability and long-time economy. Striking evidence of the extent to which this fact has been backed by dollars invested, is indicated by the list of Pacific Coast Schools using Mack Buses.

MACK-EQUIPPED PACIFIC COAST SCHOOLS

Allison Spring Valley School Dist.	*La Mesa, Calif.*
Antelope Valley Joint U'n H. S. Dist.	*Lancaster, Calif.*
Apostolic Faith Mission.	*Portland, Ore.*
Brawley Union High School District.	*Brawley, Calif.*
Calexico Union High School Dist.	*Calexico, Calif.*
Clarksburg Union School District.	*Clarksburg, Calif.*
Coachella Valley Union H. S. Dist.	*Coachella, Calif.*
Coalinga Union High School Dist.	*Coalinga, Calif.*
Colton Union High School District.	*Colton, Calif.*
Conley Grammar School District.	*Taft, Calif.*
Citrus Union High School District.	*Glendora, Calif.*
Delano Joint Union H. S. District.	*Delano, Calif.*
Excelsior Union High School Dist.	*Artesia, Calif.*
El Monte Union High School Dist.	*El Monte, Calif.*
Fillmore Union High School Dist.	*Fillmore, Calif.*
Fresno State College.	*Fresno, Calif.*
Fullerton Union High School Dist.	*Fullerton, Calif.*
Huntington Park Union H. S. Dist.	*Huntington Pk., Calif.*
Huntington Beach Union H. S. Dist.	*Huntington B'ch, Cal.*
Half Moon Bay Union High School.	*Half Moon Bay, Calif.*
Inglewood Union High School Dist.	*Inglewood, Calif.*
Kern County Union H. S. Dist.	*Bakersfield, Calif.*
King County School District No. 46.	*Bothell, Wash.*
King County Cons. S. Dist. No. 208.	*Redmond, Wash.*
Manteca Union High School District.	*Manteca, Calif.*
Oakdale Union High School District.	*Oakdale, Calif.*
Oceanside-Carlsbad Union H. S. Dist.	*Oceanside, Calif.*
Oxnard Union High School District.	*Oxnard, Calif.*
Paleto School District.	*Maricopa, Calif.*
Palo Alto School District.	*Palo Alto, Calif.*
Placer Union High School District.	*Auburn, Calif.*
Placentia Union Grammar S. Dist.	*Placentia, Calif.*
Port Townsend S. Dist. (Contract).	*Port Townsend, Wash.*
Santa Maria Union High School Dist.	*Santa Maria, Calif.*
Sequoia Union High School District.	*Redwood City, Calif.*
Sweetwater Union H. S. (Contract).	*National City, Calif.*
Thurston County S. Dist. No. 320.	*Olympia, Wash.*
Tomales Joint Union H. S. District.	*Tomales, Calif.*
Union High School District No. 4.	*Sedro Woolley, Wash.*
University of Arizona.	*Tucson, Arizona.*

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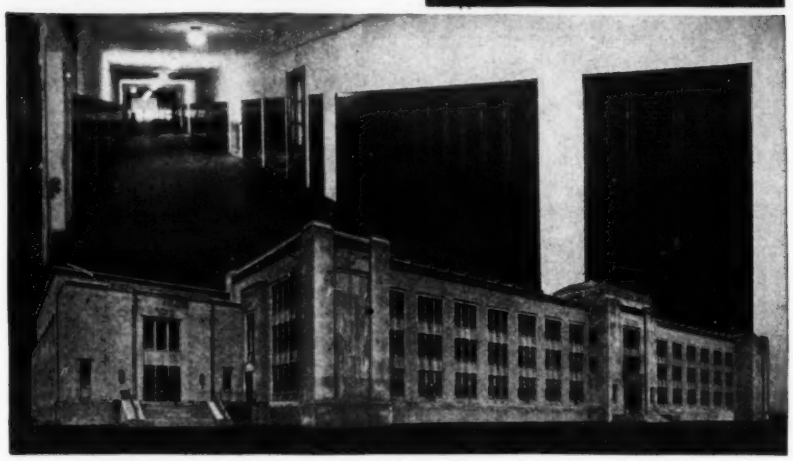
Below: Second floor installation of Berloy Recessed Steel Lockers at New John Marshall High School, Cleveland, Ohio.

Inset: John Marshall High School
George M. Hopkinson, Architect
Crowell & Little, Contractors

BERLOY



BERLOY *wins again*

IN THE NEW JOHN MARSHALL HIGH SCHOOL at Cleveland, Ohio, 4,064 Berloy Steel Lockers (132,500 pounds) make this installation the largest in Cuyahoga County and one of the finest in the country.

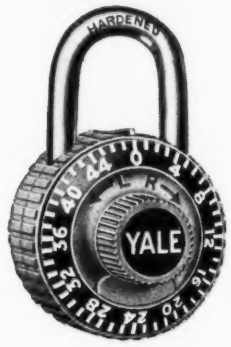
There are four outstanding reasons why Berloy Steel Lockers head the list of notable installations. First, Berloy carries a large and complete stock of sizes and types. Second, Berloy Engineers are always able to meet quickly the most unusual and exacting requirements. Third, Berloy Steel Lockers combine beauty with simplicity, strength and safety. Fourth, Berloy Service is prompt, courteous, efficient.

Without any obligation on your part, a Berloy representative will call upon request.

THE BERGER MANUFACTURING CO. · CANTON, OHIO
Division of REPUBLIC STEEL CORPORATION
BRANCHES AND DEALERS IN PRINCIPAL CITIES

OFFICE EQUIPMENT		STEEL SHELVING		LOCKERS
FILING CABINETS	STORAGE CABINETS	INDUSTRIAL	DISPLAY	SPECIAL PRODUCTS OF
DESKS and TABLES	TRANSFERS	AUTOMOTIVE	LIBRARY	ENDURO STAINLESS STEEL

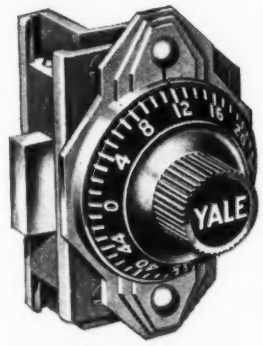
TWO NEW TRADE YALE MARK LOCKS for School Use



YALE
COMBINATION PADLOCK
No. 364

This combination padlock is built and operated like a Yale bank lock. It combines attractiveness (satin cadmium finish) with maximum security and possesses many unusual features, notable among which is the fact that it is impossible to "feel out" the combination.

YALE
COMBINATION LOCKER LOCK
No. L3364

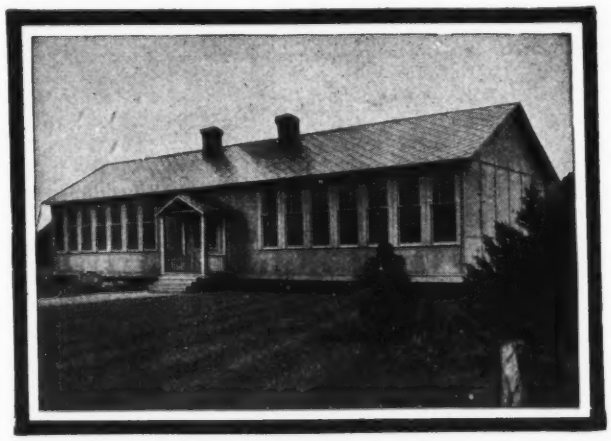


Designed for use on all makes of steel lockers and on all types of steel locker doors having the automatic bolt release mechanism. Like the new Yale Combination Padlock, this lock has a case of heavy die-cast metal made by a special Yale formula; also has satin cadmium finish.

Write for illustrated folder containing complete details regarding these two new Yale school locks . . . address

THE YALE & TOWNE MFG. CO.
STAMFORD, CONNECTICUT, U. S. A.

Ambler Asbestos
SCHOOL BUILDINGS



For the School District Needing More Room at Less Cost

If your Board needs additional classrooms to take care of increasing needs, yet has limited funds to erect a new building, your answer lies in an Ambler Asbestos School Building such as pictured above.

Ambler Asbestos Schools cost less than an addition to your old building. Prompt shipment of from one- to eight-room schools can be made. If desired we will contract to erect the building ready for classes.

Ambler Asbestos Schools are not temporary make-shifts. On the contrary, they are absolutely substantial and safe. They will give many years of service. We also manufacture churches, cafeterias, gymnasiums, etc.

"Asbestos Cannot Burn"

ASBESTOS BUILDING COMPANY
1013 LIBERTY TRUST BUILDING
PHILADELPHIA, PA.

Factory: Ambler, Pa.

No. 42000 STORAGE CASE AND BLACKBOARD

Where storage cases and blackboard space interfere with each other, the No. 42000 Storage Case and Blackboard solves the problem by carrying the blackboard in the ballbearing sliding doors of the upper section.

Economize with

SHELDON

Laboratory, Vocational and Library FURNITURE

How Much Money Are You Wasting?

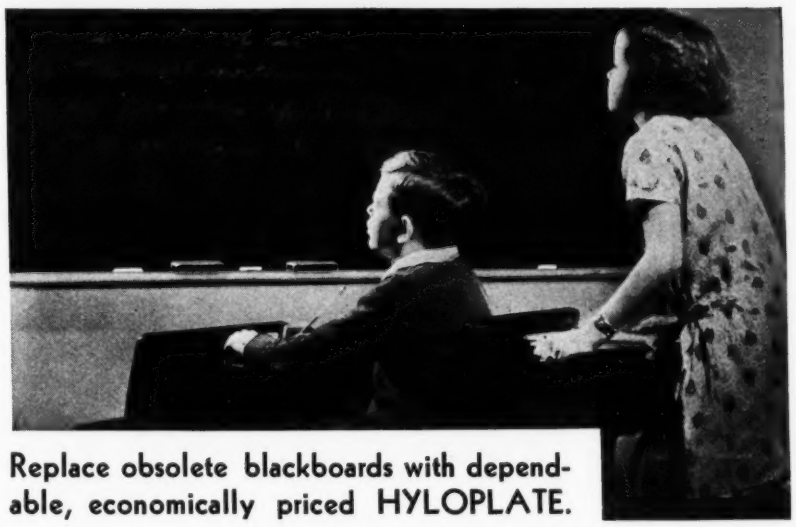
The furniture equipment in a schoolroom represents an average of less than 10% of the yearly expenditure in that room, yet it may spoil the success and profitableness of the entire program. E. H. Sheldon & Company, with years of experience in school furniture problems, with trained representatives and engineers, can help you economize.

Engineering Service on request.

700 Illustrations WRITE FOR NEW CATALOG 1500 Designs

E. H. SHELDON & CO. Muskegon, Mich.

Protect Pupils from Blackboard FADEOUTS



Replace obsolete blackboards with dependable, economically priced HYLOPLATE.

SHINY, light reflecting blackboards cause FADEOUTS . . . the fading out or blurring of chalk marks. Pupils can not read from such blackboard beyond the center of the room . . . or the writing is so blurry pupils must SQUINT to see. That causes EYESTRAIN . . . sometimes more serious ills.

Protect your pupils' eyesight by installing glareless, non-light-reflecting OLD RELIABLE HYLOPLATE BLACKBOARD. Its deep, dull, uniformly black writing surface always shows up writing clearly, distinctly.

Get the facts about this economically priced, wood-fibre backing blackboard. A sample, cut right from stock, gladly sent free to educators. Address Dept. H72.

Weber Costello Co.

Chicago Heights, Illinois

Makers of STERLING LIFELONG BLACKBOARD, OLD RELIABLE HYLOPLATE, VELVASTONE, GLOBES, MAPS, ERASERS, CRAYON.

(Concluded from Page 72)

must be obtained in the way of measuring the building as a whole, and each integral part thereof. Teachers and teaching time, pupils and recitation time, volume of heat and light, supplies for teaching, and janitorial service must in some practical manner be measured and allocated.

Under the head of "Use and Value of Unit Costs," the committee found that cost finding may be a waste. Unless the school executive makes use of unit costs the expense of securing minute data and compiling elaborate tables of information cannot be justified. Briefly, the value of unit costs lie in the following points: (1) a scientific basis for compiling a budget; (2) the objective point in reducing expenses, or in making unjustifiable variations between departments or buildings; (3) strength or weakness in a school system, indicating the essential or less essential things; (4) costs by functions, departments, and objects as an index for evaluating school service and for protecting the taxpayer against the encroachments of abnormal tendencies; (5) costs in general as an aid in setting up standards of correct practice, and for formulating an index for efficient and economical management, and to give the executive, the school board, and the public an answer to inquiries regarding public-school expenditures. The report will be printed for general use by school authorities.

It was remarked frequently during the convention that the members stuck closely to the meeting hall and entered eagerly into the discussions. The entertainment included a delightful dinner at the Hollywood Inn, followed by a round table on janitorial service in the Hollywood High School, with the entire Los Angeles janitorial force in the audience. The registration exceeded 150, but such old leaders as Rose, Mullan, Morse, Wynkoop, Barr, Chambers, and Howe, were missed.

In revising its constitution to encourage the formation of local and state associations of school-business officials and in voting to issue bulletins developed by its research committees, the Association indicated a logical extension of its service and scope. Certainly its frank discussion of depression problems and its willingness to consider the justification and readjustment of old theories, precedents, and practices in the light of new conditions is refreshing. School-business managers are apparently willing to consider problems, even though the speakers are not making propaganda for higher salaries, etc.

CRITERIA FOR STANDARDIZING INSTRUCTIONAL SUPPLIES

(Continued from Page 42)

standards for utilization. Requisitions should be made in terms of standard allotments, standards of place where used, for what used, and time when used. The business manager should adhere to quantity standards and standard specifications in purchasing, and vendors should be held strictly responsible for standard qualities. The supply budget should be determined from utilization and quantity standards. Warehouse clerks should distribute supplies strictly in accordance with standard allotments.

This criterion of utility will be realized only in proportion to the extent that the complete program of standardization and supply management embraces the remaining criteria.

II. Simplicity

Supply standards should make for a simplification of the activities connected with supply management and control. Simplicity should promote efficiency. Requisition, purchase, order, and warehouse forms should contain standard supply lists and each item of the list should have its standard code number. Standardization of forms simplifies the work of requisitioning, purchasing, and distributing, and to a considerable extent eliminates duplication of effort. Standard code symbols for each supply item make for ease and efficiency in accounting practices.

III. Adequacy or Completeness

Standards in instructional supplies should include standards for purchase and standards for utilization. Adequacy implies standards both in terms of quantity and quality. All supplies used should be standardized; that is, they should be included on the standard supply list. Further, standard quantity and cost units should be developed for each item. Standards then become adequate for use in business management and budgetary control. Adequate cost and quantity units will make possible comparative cost and quantity studies of supplies used for similar and dissimilar purposes, in various grades and in various schools. Adequate unit quantities and costs for supplies are basic in budgetary comparisons from year to year.

Adequacy in terms of quality demands that each item on the standard supply list be given specifications; that is, it shall be described as to quality of composition, design, construction, workmanship, and finish. Further, the kind and character of the service the article is expected to furnish should be known. Adequacy with respect to quality protects the user, the purchaser, and the vendor.

The criterion of adequacy should result in the development of a standard descriptive supply list. An article is not completely standardized until it is defined and accepted for use in terms of best results in learning. This means that it is named, coded, classified, and given unit cost and quantity standards, together with purchase and utilization specifications. The entire list of articles, each with its complete de-

Seven Services With One Machine

New "HUSHED" HILD
Electrically Operated
FLOOR MACHINE
Scrubs . . . Waxes . . . Polishes

An amazingly quiet-running electrically operated floor machine . . . designed specially for schools and similar institutions. Ingeniously constructed gear reduction unit is securely attached directly to motor. Banishes noise almost completely.

Easy to operate! The Hild is "self-propelling"—it creeps over the floor in any direction. Just guide it! 5 times as fast as other machines. Will easily repolish 5,000 sq. ft. of waxed floors in an hour! Efficient—because entire weight is on brush.

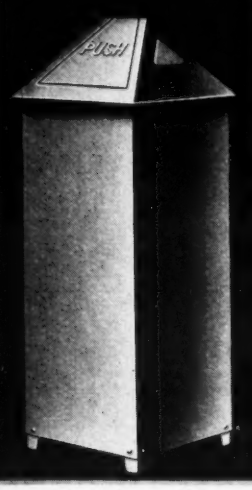
HILD Guaranteed Floor Treatment
for all types of floors
for all traffic conditions

5 Day Free Trial! Write for Details.

Hild "No. 1 Special" — varnish-wax treatment for wood, linoleum, cork, concrete, etc.
Hild "No. 2 Special" — varnish-wax treatment for rubber floors.
Hild "No. 3 Special" — self-polishing treatment for all types of floors.
Hild Paste Wax.
Hild Floor Seal.
Hild Liquid Floor Cleaner.
Hild Floor Bleach.
Hild Varnish Remover.

HILD FLOOR MACHINE CO.
114 W. Lake St., Chicago,

You'll find SOLARS
WHEREVER SANITATION IS ESSENTIAL



To Standardize on the SOLAR SYSTEM OF WASTE DISPOSAL means to effect economy in School cleaning and at the same time assure sanitation.

We will gladly supply School Executives with interesting information on how SOLARS solve this particular school problem. . . . Write direct or to your nearest distributor.

THERE IS BUT ONE *PERFECT* RECEPTACLE
and that is S O L A R . . .

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scription, makes up a standard descriptive supply list.

IV. Validity

Validity requires that standards be determined by careful trial, experiment, and analysis. With reference to utilization standards, articles should be selected for a particular purpose and accepted for use for that service. This is but to say that the validity of standards must be sought in terms of the use to which the article is put — in terms of the instructional activity it promotes.

Validity makes demands on the quantity, quality, and cost of supply articles. The validity of a standard supply article is established to the extent the article does what it is supposed to do. A standard is valid when it produces optimum learning results for quantity, quality, and cost involved. It is evident that validity of standard supply articles cannot be claimed if quality is guessed and cost and quantity units are arrived at haphazardly.

The criterion of validity requires that those who use the articles in the promotion of learning — teachers and supervisors — have a significant part in the development of instructional supply standards.

V. Reliability

Reliability demands that supply standards be consistent in quality and character and, to some extent, in price. Validity requires careful selection of standard supply articles in view of the use to which they are put, and reliability insures the standards thus validated by defining with accuracy and definiteness the quality, service, use — and to a less extent, the cost — of these supply articles. Validity and reliability are not sharply distinguishable, but there is enough of a difference in the meanings here intended to warrant the use of both terms. An illustration will help to make that difference clear. Suppose that one of the learning activities in eighth-grade arithmetic is the construction of circle graphs. Circles can be drawn by tracing around an ink bottle, by using a string and a pencil, and by a compass. Which of these articles is the most valid? Which does best what it is supposed to do? After some experience and experiment, it is decided that the compass is the most valid article because of the ease and accuracy with which it can be used, its adaptability, and its durability. It is valid in terms of quantity, quality, and cost. But simply to name a compass as a supply article for this particular learning activity is not enough. Of the several types and kinds of compasses, a particular style and kind with a specific cost is selected. The particular style of compass is described in terms of construction, workmanship, finish, durability, and cost. Its reliability is established. This particular style is deemed reliable in view of the quality and character of work for which it is to be used. Thus, reliability insures the article standard with respect to its quality, character, and service.

VI. Flexibility

Flexibility means that standards are tentative. Standards should be determined with reference to given types of instructional activity and the permanence of standards thus depends upon the retention of those types of learning activity which the supply articles are intended to further. As changes occur in the kind and nature of the instructional activities, so should changes be made in the supply articles used in those activities. Standards are not fixed or determined for long periods of time. Supply articles are standard only with respect to given conditions. Flexibility demands that new standards be created to meet the needs of new learning activities, and that old standards be abolished when the learning activities for which they were created no longer exist.

Flexibility, therefore, means that the standardizing program be adaptable. It should be planned to meet the demands of changing instructional procedures. Likewise, the program should be continuous. Standardizing is not done once and for all. Continuous attention on the part of teachers and supervisors to the best and most adequate, most valid, and most reliable supply article for a given learning activity, should become not the least important of their functions.

These six criteria — utility, simplicity, adequacy, validity, reliability, and flexibility — seem sound and reasonable, and are intended as guides for the direction and control of any program of standardization of instructional supplies. Supply standards which meet the requirements of these criteria are desirable and necessary, if school administrators are interested in advancing instructional efficiency and sound business policy.

YARDSTICKS AND BAROMETERS FOR MEASURING EFFICIENCY OF SCHOOL BUSINESS ADMINISTRATION

(Continued from Page 23)

tinuous inventory account, the difference between the maximum coverage and the actual average inventory being invalid and a like portion of the premium returned.

In Conclusion

The statistics and the techniques of school-business management are relatively simple matters. As school-business managers you have the materials at hand, and you know how to use them. The politics of your situation, just as in any other branch of government, is the difficult phase. I believe you have a great advantage over other professional people concerned with public education, for you deal with more tangi-

(Concluded on Page 78)

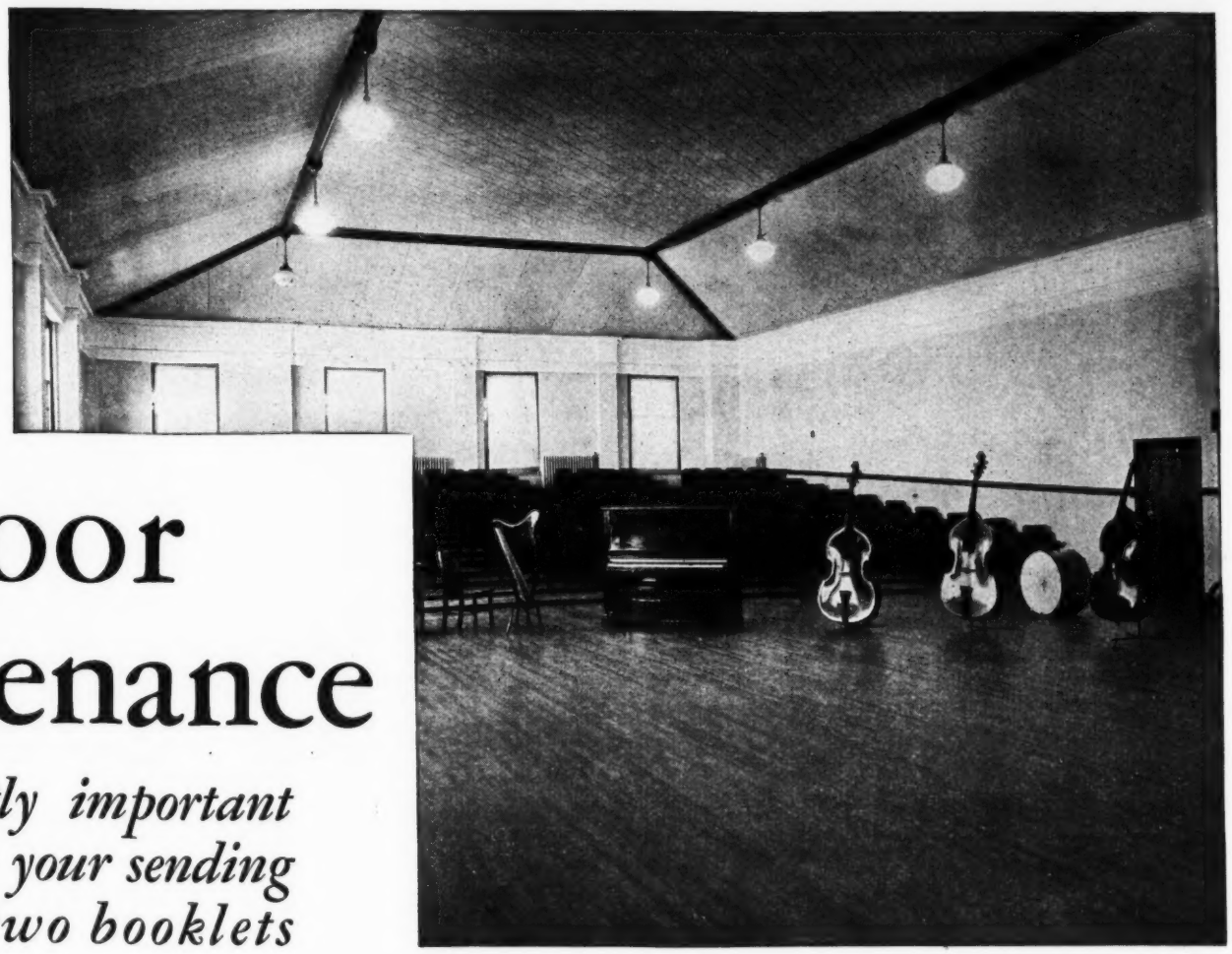
"My observations, after subjecting many products to the use-test in our buildings, cause me to recommend your Products to The Building Committee.

"These products are still rendering the same satisfactory service. Our floors are beautiful, well-preserved and are economically maintained in a sanitary manner.

"Yours very truly,
(Signed)

G. C. Kempton

Supt. of Buildings and Grounds.



Floor Maintenance

is sufficiently important to warrant your sending for these two booklets

Floors in the schools of the Nation represent an investment of millions of dollars. Proper maintenance of these floors to prolong their life protects the Board's investment. The two booklets offered here describe proper maintenance methods for various types of floors. Much may be learned from their contents that will result in maintenance economy and in a vast improvement in appearance.

Scientific Study Reveals these Facts

Wood floors quickly reveal the effect of improper care and treatment. Frequent scrubbing should be avoided as moisture penetrates and results in warping, splintering and eventual disintegration. Wood floors should be sealed against the penetration of dirt, oil and moisture.

The life of Asphalt Tile, Rubber Tile and Composition Floors depends largely upon their treatment and maintenance methods used. Waxes, for instance, that contain gasoline, naphtha, turpentine or similar solvents, soften floors and cause quick deterioration. Therefore, a specially prepared wax must be used.

Complete information obtained by years of scientific research and covering treatments for all types of floors will be found in the two booklets offered here.

A Correct Treatment For Every Condition

Floor Maintenance depends upon type, age and condition of floors. For every floor, there is a scientific Maintenance Program worked out by Vestal Chemists in conjunction with the leading manufacturers of flooring and floor-covering materials. In addition, there is a Vestal Product formulated for each maintenance operation. A Vestal Maintenance Engineer is available for supervising the initial treatment and instructing those in charge of regular maintenance.

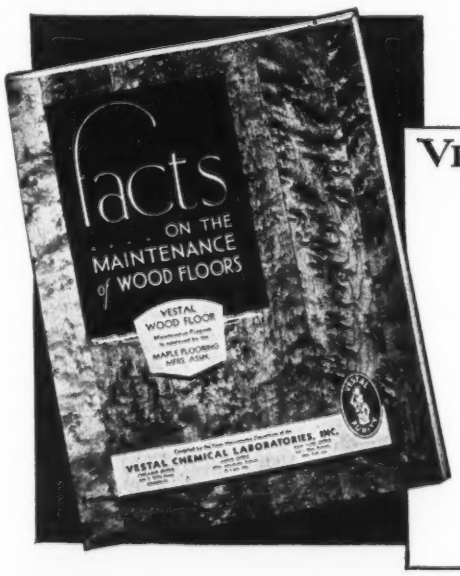
Vestal Methods Highly Endorsed —Vestal Products Widely Used

Schools, Hospitals, Public Building and large Industrial Firms all over the country are following the Vestal Program with highly satisfactory results according to their own statements. Vestal Products, wherever used, bring forth enthusiastic comments. Note above the statement of G. C. Kempton, Superintendent of Buildings and Grounds, Topeka (Kansas) Public Schools.

These Two Booklets Should Be In Your Possession

Clip the Coupon Below and Mail

You obligate yourself in no way whatsoever when you request these two booklets. They have been prepared for your information and we gladly send them to you. Simply as a matter of informing yourself on proper floor maintenance, fill in the coupon and put it in the mail today.



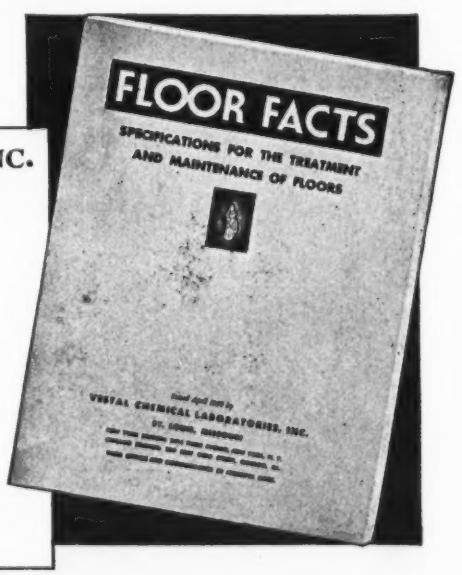
VESTAL CHEMICAL LABORATORIES, INC.
ST. LOUIS NEW YORK

Please send me, without obligation, the two booklets on floor maintenance which you are offering. I am particularly interested in the treatment of.....floors.
(Mention type of floor)

Name.....

Address.....

City.....*State*.....



Columbia offers the complete line of school seating and equipment—MODERN in attractive and sensible design—MODERN in price range

Send for our catalogue and reduced price list.

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COLUMBIA
School Supply Company
Indianapolis, Indiana

(Concluded from Page 76)

ble matters. You can easily demonstrate what you are trying to do and what you have accomplished. You have applied scientific methods in your work with great success. It is to be hoped that your application of such techniques will serve as an inspiration to educators, working in the more intangible aspects of child psychology and sociology, to apply the same carefully reasoned scientific procedures that have characterized your own efforts.

Your service to the Nation is fundamental; your task is hard and strewn with bowlders of misunderstanding and shortsightedness. But your employers, the people, have confidence in you and you will not abuse it. You are the buffers between educational idealism and economic reality. Avoid extremes; great is your opportunity to help educators and citizens find the sane, middle ground. You are looking for it; you will find it; your countrymen will be grateful.

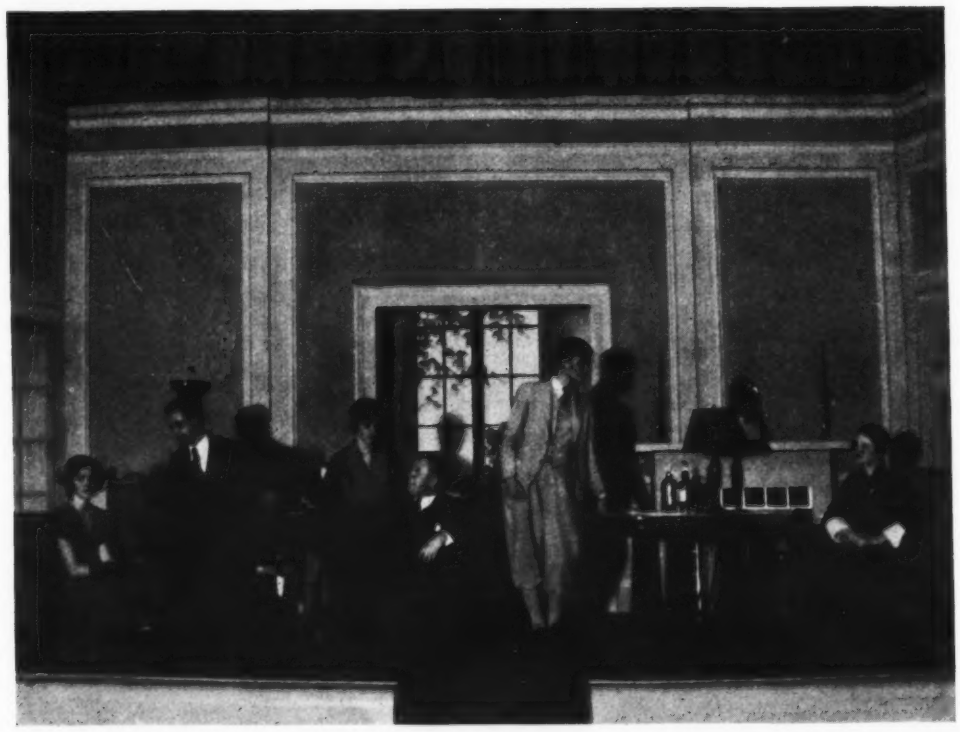

FIG. 4

View of scene from Junior play "Babs," showing valance hiding lighting equipment above and two footlight sections in foreground.

MODERNIZING THE LIGHTING OF THE SCHOOL STAGE AT SMALL EXPENSE

(Concluded from Page 47)

3	400-watt spotlight
2	250-watt spotlight
1	1000-watt general service
2	500-watt general service
40	100-watt general service
30	60-watt general service

In Conclusion

It is impracticable to set forth the exact cost of the various items listed, because these will probably depend on numerous local factors, relative discounts, etc. In some instances the manual-training department may not be equipped to prepare the supporting framework, etc. In other cases there may be more apparatus already installed, requiring the purchase of less additional material, but it may be very safely estimated that by following some such scheme as outlined, even where there is practically nothing now available, a thoroughly satisfactory and most workable layout may be obtained, using the highest grades of material, at a cost of between $500 and $1,000. This, of course, assumes that a flexible or portable system of wiring is followed throughout and no labor for permanent electrical work is used.

SCHOOL BUILDING NEWS

♦ Saratoga Springs, N. Y. A new heating and ventilating system will be installed in School No. 4, at a cost of $16,000.

♦ Norfolk, Nebr. The board of education recently carried a bond election for the erection of three new school buildings. Upon a request of the voters, the board called an election to legalize the Norfolk Junior College, but the college lost by 35 votes, out of a total of 2,179. Another election will be called to vote on the same proposition.

♦ The Samuel E. Shull School was recently dedicated at Perth Amboy, N. J. The school was named in honor of Superintendent-emeritus Samuel E. Shull, who completed 35 years of service in February, 1930. A second school named in his honor, is located at Easton, Pa.

STAKMORES

THE IDEAL SCHOOL EQUIPMENT!

Meet All Requirements of
ECONOMY
DURABILITY
EFFICIENCY
and
COMFORT

They Fold Easily and Stack Compactly

Prices 25% Lower Than Last Year!

STAKMORE
Aristocrats of Folding Furniture

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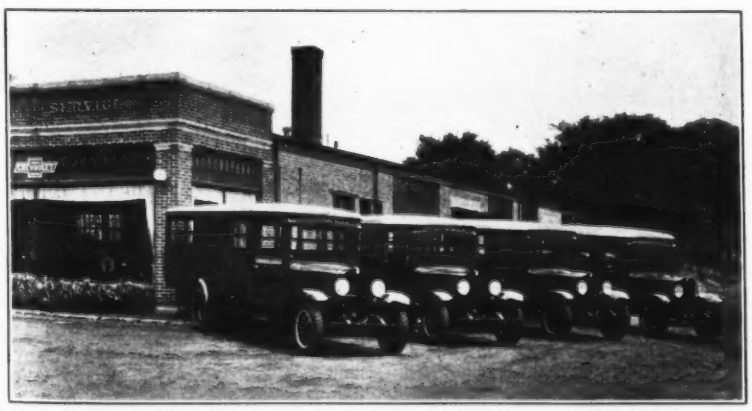
BEFORE YOU CONTRACT FOR SCHOOL TRANSPORTATION

Secure Prices and Information About

York-Hoover School Bus Bodies

NEW MODELS — LOW PRICES



A GROUP OF SAFETY BUSES BEING DELIVERED

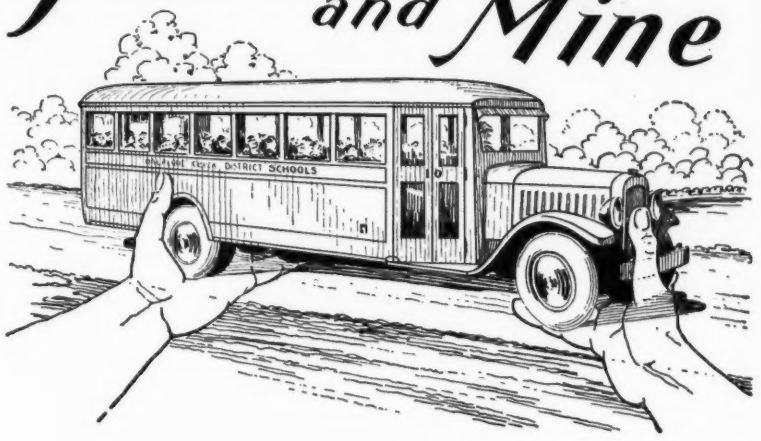
SAFETY FEATURES of REAL CONSEQUENCE IN OUR MODELS

Buy Through Your Auto Dealer

or Write

YORK-HOOVER BODY CORP.
YORK, PA.

Yours and Mine



IS A DOLLAR REALLY WORTH SO MUCH that the lives of our children, Yours and Mine, which are in your hands, can be measured in dollars and cents?

CONGRATULATIONS are offered to you who are responsible for our wonderful schools of today with pure water and sanitation, filtered air, and fire prevention. *But,* IS THE REAL DANGER IN THE SCHOOL ITSELF?

Your child and my child spend an hour every school day on the crowded, hurrying highways — SCHOOL TRANSPORTATION IS THEREFORE JUST AS IMPORTANT AS FIRE ESCAPES OR PURE WATER.

You have insisted upon certain safety specifications in your school busses but have you demanded shatter-proof glass, the one foremost, and essential safety feature?

What Price This Safety?

The price of one stick of gum a month from each member of your school district will pay for SHAT-R-PROOF GLASS in your Busses!

Shat·R·Proof
The SAFE Glass

Manufactured and guaranteed by

Shatterproof Glass Company
151-195 SOUTH WATERMAN AVE.
Detroit, Mich.

NOT A RATTLE IN A CARLOAD!

Here's the ideal chair for assembly room and other school uses. When you use the TUCKER'WAY all-wood folding chair, there are no annoying rattles or squeaks to disturb students or teachers. And it's as strong as an Ox—stands up under children's hard knocks like a veritable Samson. Opens and closes *with the foot*, and stacks as flat as a pancake! Easy on the treasury, too, for this chair is priced for reduced budgets.

The TUCKER'WAY has patented features, found in no other chair, that should appeal to every school board member. Here is a chair that has a large, roomy seat, EASE-y to sit in, and will last for years and years. No metal to tear clothes or stockings. No worry about accidents, either, for it will support at least 720 lbs. without breaking down. Can be "tucked" away in a jiffy and requires little storage space because it folds absolutely flat.

Peerless TUCK-ER-WAY

Well Built
Won't Tilt

Folds Flat

These chairs are made in regular and juvenile sizes in natural (Beech) finish. Also in a variety of vivid colors — Orange, Jade Green, Chinese Red, French Blue, and Black or Walnut on special orders. *Sold singly or in sections.* In addition to schoolroom and auditorium use, they are ideal for lunchrooms, banquet halls, conventions, and as spare chairs for emergencies.

Send for Samples and Catalog!

Send for a sample and see for yourself the strength, comfort, and other features that make the TUCKER'WAY an ideal school chair. Sample may be returned or kept as part of order. (No free samples.) Detach the slip below and mail today for sample and catalog.

TUCKER DUCK & RUBBER CO.

Dept. E-15, Fort Smith, Ark.

WAREHOUSES: Brooklyn, N. Y.; Philadelphia, Pa.; Atlanta, Ga.; Chicago, Ill.; Minneapolis, Minn; Kansas City, Mo.; Dallas, Texas; Houston, Texas; New Orleans, La.; Oklahoma City, Okla.; Memphis, Tenn.; Denver, Colo.; Cincinnati, Ohio; Boston, Mass.; San Francisco, Calif.; Tacoma, Wash.; Los Angeles, Calif.; Jacksonville, Fla.; St. Louis, Mo.

Tucker Duck & Rubber Co.
Dept. E-15, Fort Smith, Ark.
Send Samples (none free) of:

- **( ) TUCKER'WAY**
- **( ) TUCKER'WAY Jr. (Juvenile Size)**
- **( ) 1932 Catalog**

Name .....

Address .....

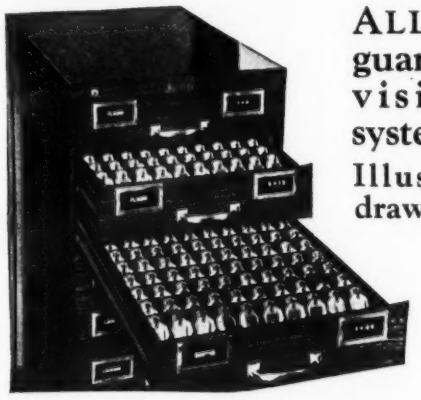
8

School Administrators

throughout the country

are adopting

TELKEE VISIBLE KEY CONTROL SYSTEM CABINETS



ALL KEYS are safeguarded by a complete, visible, recording system.

Illustration shows a drawer file unit.

TelKee also offers steel wall cabinets in a wide range of sizes, as well as other special types.

You should have full information. Sent on request.

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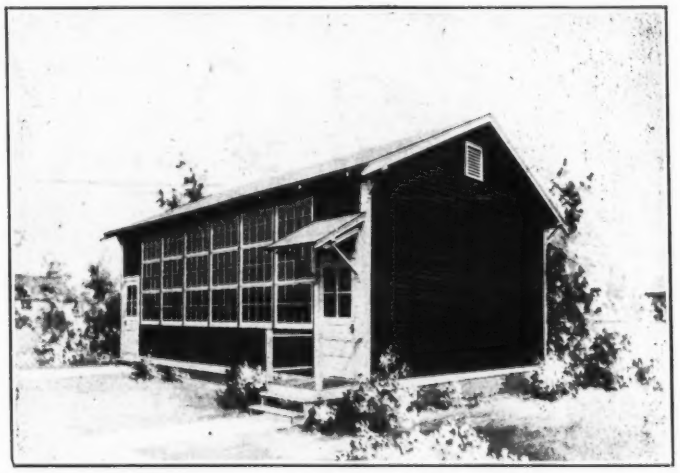

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During these times of reducing operating budgets . . . "economy has been the watchword" . . . Minter permanent . . . *yet portable* . . . school buildings offer a most timely solution for the least money . . . prices and sizes upon application.

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The lightest 1000 watt sound on film projector ever made and A CHALLENGE to the world in the perfect reproduction of sound!

"I finished installation of West Kentucky Industrial College last week.
As to the equipment, I certainly want to take my hat off to any man who can design equipment that runs as smoothly and runs as good as this does. It is 100% perfect."
AMERICAN VISUAL SERVICE
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"Heard other portable sound equipments, up to more than double the price, and I must say, truthfully, that results with the HOLMES were so far superior that there is no comparison.
Dialogue clear and distinct, no muffled tones and one very noticeable feature, there was no rushing or roaring of sound reproduction."
ELLIOTT FILM CO.
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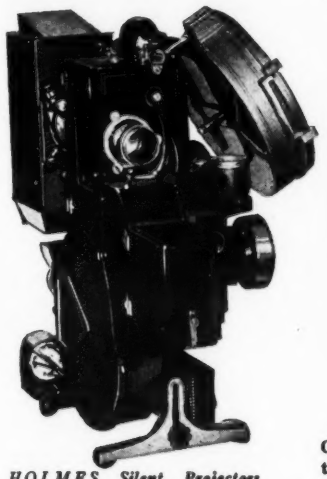
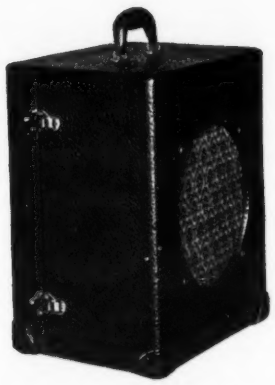


HOLMES Silent Projectors now in use can be equipped for sound-on film at small cost.



Complete outfit—which includes everything for reproducing sound-on film talking pictures, ready to run, ALL WEIGHING LESS THAN 90 LBS.

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ELEMENTARY courses in these subjects demand not only precise microscopes but ones that will stand the rough and tumble usage of students.

Spencer No. 64 Microscope is simple and durable in construction—made so that it will retain its inherent precision after years of handling by students unskilled in operating a microscope. Equipped with standard body tube, stage and stand. Objectives and eyepieces are excellent quality. Coarse and fine adjustments are precise. Iris diaphram is standard equipment.

The laboratories of your high school or college should be equipped with these fool-proof microscopes for this coming school year. Folder M-52 completely describes the Spencer No. 64 Microscope. Write for it now!

PRODUCTS: Microscopes, Microtomes, Delineascopes, Visual Aids, Optical Measuring Instruments.
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Spencer Lens Company
BUFFALO NEW YORK

A CITIZENS' TRIBUTE

A group of representative citizens of Knoxville, Tenn., recently raised $1,500 to satisfy a compromise on a judgment against Homer P. Shepherd, former superintendent of the Knoxville schools.

Mr. Shepherd who came to Knoxville about 1924 carried on a vigorous campaign for the rehabilitation of the school plant and equipment and for the revision and standardization of the educational program. One especial matter in his program was the removal from the corps of certain principals and teachers. A principal who had been refused a recommendation for reëlection sued Mr. Shepherd for libel issued in a newspaper statement explaining his action. The principal was awarded damages of $5,000, but the sum was cut in half by the State Supreme Court. The board of education then failed to reëlect Mr. Shepherd.

Mr. Shepherd since leaving Knoxville has been teaching in a temporary position, and the judgment has acted as a barrier in the way of his obtaining another superintendency. A group of interested citizens determined to act in their own way in righting the wrong they believed had been done and set about to raise the required amount by voluntary contributions.

THE CHICAGO SCHOOL SITUATION

The continued failure of the city to pay the teachers their salaries and the Strayer Survey Report were the main topics of discussion in Chicago school circles during the month of June.

The Strayer Survey group on June 1 presented a supplementary report suggesting further economies and finding further waste and inefficiencies. The largest waste was noted in the construction of school buildings which cost from 21 to 33 per cent more than comparable school buildings in other cities. The two main recommendations of the report were (1) for the establishment of an income-tax system and increased revenue from state sources, and (2) the unification of the administration of the schools under the superintendent as chief executive. For immediate financial relief the architect's office is to be abolished and the staff of draftsmen, etc., is to be discharged, janitors' wages are to be reduced, various economies in school maintenance and operation are to be introduced. A total of 1,077 employees are to be dismissed. On the educational side the Strayer surveyors find the kindergartens to be inadequate, the rate of promotions in the grades to be too low, the high schools to be overcrowded, the supervision to be ineffective, and the pupil records to be incomplete. Manual training and cooking classes below the seventh grade are to be closed except for a few activities rooms. Up to the time of going to press no definite action has been taken by the school board.

The Chicago teachers on June 15 held an open-air gathering near the Field Museum, protesting the failure of the city to pay the salaries due. The teachers have received cash payments for only five weeks during the entire school year. Mayor Cermak, to whom the teachers further appealed, made elaborate explanations of the city's finances but could give no assurances concerning cash payments. A fruitless effort to obtain federal moneys from the Wagner relief funds was made by representatives of the Mayor and of the Illinois members of Congress.

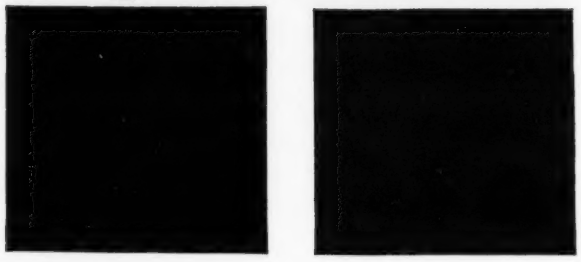
MR. RALPH C. LLEWELLYN HEADS J. C. LLEWELLYN COMPANY

Mr. Ralph C. Llewellyn, son of the late Joseph C. Llewellyn, and a member of the firm of Llewellyn & Company, has assumed the direction of the business of the firm following the death of his father. Mr. Llewellyn plans to keep in touch with the architectural needs of the schools and will be in position to undertake any work which may come to the firm in the near future.

LEFT TO RIGHT, SITTING: PROFESSORS N. L. ENGELHARDT, FRANK W. HART, AND GEORGE D. STRAYER. STANDING: PROFESSORS PAUL R. MORT AND JOHN K. NORTON, ALL OF COLUMBIA UNIVERSITY. (Tribune Photo.)

SELOC GLASS BLACKBOARDS

Compare the Results



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UNIFORM DEEP BLACK	»	VARYING COLOR FROM GRAY TO LIGHT BLACK
Easy writing because of velvet texture	»	Rough writing because of pitted texture
Absolutely non-fading	»	Not non-fading
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Easy to erase and wash	»	Difficult to clean
Impervious to moisture	»	Absorbs moisture

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It is made of black plate glass—with a *suspended abrasive* uniformly dispersed throughout the glass *while molten.* Not just a top surface treatment that wears smooth and slippery, but a blackboard that is perfect *surface all the way through from back to front.* Experimental tests equivalent to *one hundred years' wear* have left *Seloc Glass* blackboards as good as new.

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A GLANCE AT THIS NEW PATTERN will show that the combination of various-sized drawers and cupboard makes an unusually practical bench. Notice, especially, the small drawer which is intended to hold nails, screws, small tools, etc., which so easily become misplaced when kept with the larger tools. Being able to immediately lay hands on these small but necessary items, will be the means of saving a great deal of time, thereby promoting efficiency. Also, notice the large cupboard, which will hold such tools and materials which cannot be kept in the general or three private drawers. Bench is equipped with our Abernathy Rapid Acting Roller Nut Vise No. 70D on front, adjustable stop and dog.

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The Principal knows that the bells will ring on time, every time. The students know that each class will be given its just portion of time—no cheating. Consequently every minute is accounted for and teachers can plan their schedules to take full advantage of class time.

Built upon a No. 86 Seth Thomas movement, the Murda Program Clock is a sturdy, dependable device which will operate automatically all the bells in the building on from one to four separate circuits, silencing them at night and on Saturday and Sunday. No expert servicing is ever required on its simple mechanism. Initial expense is low and cost of upkeep is negligible.

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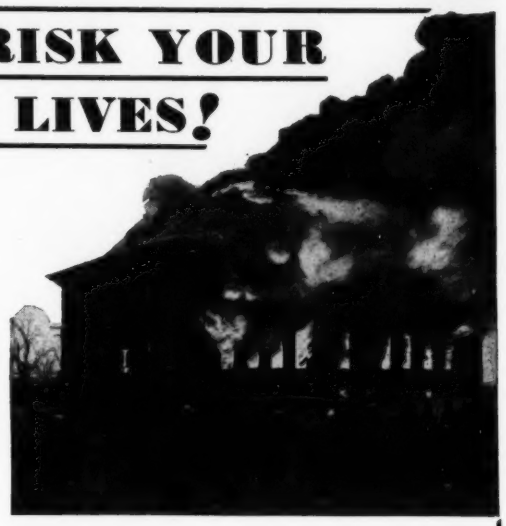

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All Metal Shade Roller
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WE WILL GLADLY FURNISH YOU A SAMPLE — *just to show you that you can't do it!*

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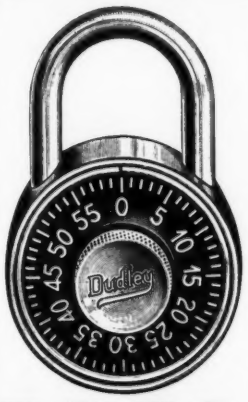
Wanted—School superintendents desirous of sales positions during the vacation period, to sell a product required by law on most schools. A large number of schools are prospects. Address 47-J, American School Board Journal, Milwaukee, Wis.



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are used daily by American students to protect personal possessions from theft.

Send for literature describing three new Dudley Combination Locks embodying the latest safety features.

School executives may inspect a Dudley Lock free of obligation. State type desired.

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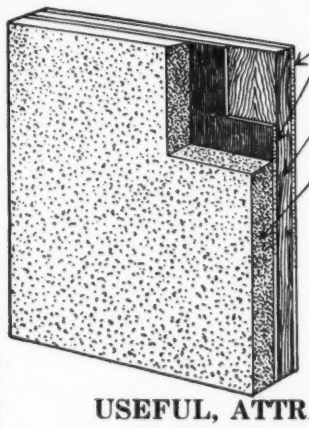

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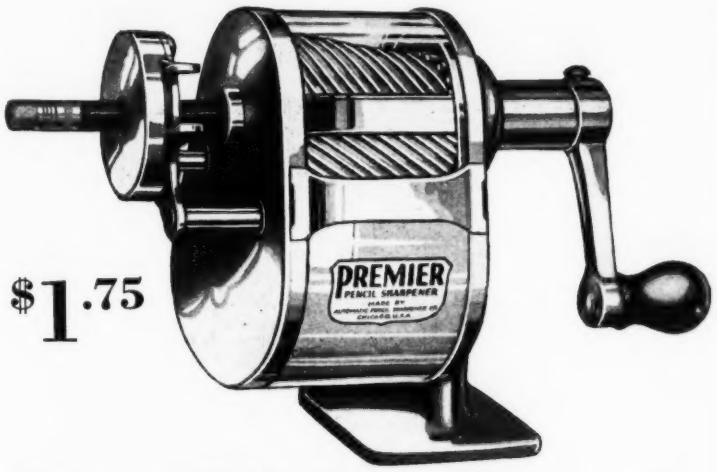

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Makes a smooth, legible mark, with no ragged edges. Erases easily, does not leave a greasy or dusty surface, the dust from the eraser falling to the chalk trough and not dispersing in the air. Will not scratch the board. Packed in moisture proof metal containers.

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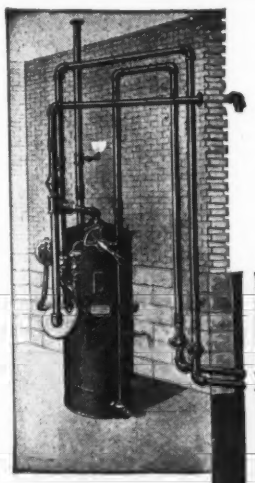

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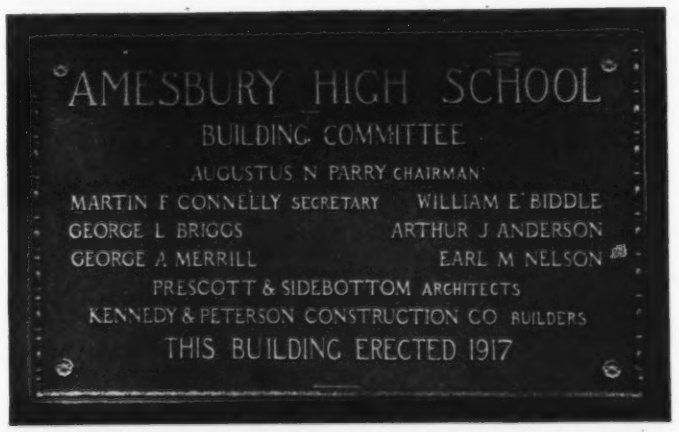

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Buyers' News

TRADE PRODUCTS

Yale Develops New School Locks. Yale & Towne Mfg. Company, Stamford, Conn., has announced two new school locks which are revolutionary in type and especially adaptable to school requirements.

The Yale Combination Padlock is built and operated like a bank lock and has many distinctive features. A complete dial revolves against the flat surface of the lock and there is a raised indicator at the top of the case for ease in operating the lock. The shackle is automatically locked when pressed into a closed position and may be automatically upset by merely closing the shackle. An important feature of the lock is the inability to feel out the combination of the lock in any way. The correct numbers must be known in order to open the lock.

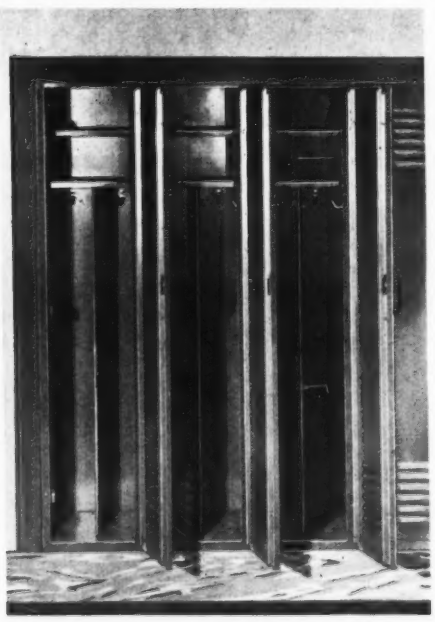
The Yale Combination Locker Lock is constructed of heavy die-cast metal, made from a special Yale formula, and built to withstand the hardest service. It has an attractive appearance, is finished in heavy satin cadmium material, and is carried out in modernistic design. The lock is designed for use on all makes of lockers and on steel locker doors having an automatic bolt-release mechanism. It is also equipped with the automatic deadlocking and combination dispersing feature.

Complete information may be obtained by any school official upon request.

Lyon Group-Controlled Lockers for Schools. The Lyon Metal Products, Inc., Aurora, Ill., has announced a new type of locker of a revolutionary character, called the group-controlled locker, which offers additional floor area for greater classroom space.

A SIMPLE DEVICE MAKES GROUP OR SINGLE LOCKER CONTROL POSSIBLE

The group-controlled locker is adaptable to schoolroom use, since it may be installed in classroom walls and release space formerly used for cloakrooms. The group-controlled feature eliminates the use of keys and obviates the trouble of lost keys or forgotten combinations by pupils.



THE NEW LYON GROUP-CONTROLLED LOCKERS

The locker consists of a single row of child-sized lockers. A padlock and a special lever control the unlocking of the entire group of lockers. Each pupil has a private compartment for wraps and books, which eliminates contact with other pupils' clothing and losses or damage to individual garments. The locker is adaptable to use in platoon schools and its use in elementary schools is not only desirable, but an actual saving in building costs.

Complete information may be obtained by any school official, or architect, upon request.

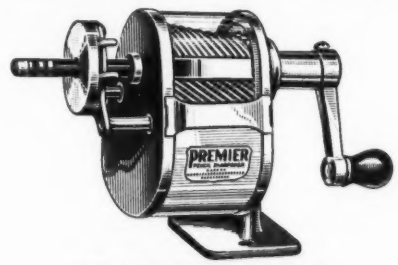
Aluminum Moulding for Blackboards. The Aluminum Company of America, Pittsburgh, Pa., has announced a new type of blackboard moulding for school use. The moulding is a new device which offers a solution to many problems encountered in connection with moulding used in educational institutions.

The moulding is made of extruded aluminum sections, which simplifies the task of erection, prevents warping and cracking, and eliminates many of the problems connected with cleaning. Its smooth surface requires no paint or varnish, and is proof against defacement by pupils. It is in harmony with the modern decorative idea, and its permanence and low upkeep make it an economical feature of school equipment.

Complete information and prices may be obtained by any school official upon request.

Announce New "Premier" Pencil Sharpener. The Automatic Pencil Sharpener Company, Chicago, Ill., has announced the marketing of its new "Premier" pencil sharpener, a new automatic-feed model, which has proved popular with the schools.

The "Premier" sharpener is especially efficient in operation. It sharpens pencils of different sizes and all waste is prevented by a new automatic-feeding device. The device feeds the pencils directly to the center of



THE NEW PREMIER PENCIL SHARPENER

the cutter, so that it is impossible to have unevenly sharpened pencils. There are no exposed rods, or other parts, to rust or get out of order. The "Premier" combines high quality with extreme efficiency and may be had at a very low price.

Complete information will be furnished to any school official upon request.

New Cafeteria Equipment. The Josiah Anstice Company, of New York and Chicago, have announced the publication of two bulletins, describing its new silver cleaner and burnisher and a new vegetable peeler for use in school cafeterias.

The Sterling silverware burnisher keeps silverware bright and removes scratches and is adapted to flat as well as hollow silverware. The equipment comprises an aluminum tub with ball trap, a bronze burnishing barrel, a basket to receive the silver after burnishing, an aluminum rinse tank, an automatic cut-out switch, adjustable cover lock, and a clutch lever convenient to the operator.

The Sterling potato and vegetable peeler is intended to give peeling efficiency, with minimum vegetable waste. It contains a carborundum abrasive on both the cylinder and disk, a shockproof drive, automatic switch, hingeless cover. It may be furnished with a cast metal peel cap to prevent the drains from becoming clogged.

Complete information about these new types of equipment may be obtained by any school official upon request.

Instructions for Installing Optex Blackboard. The Libbey-Owens-Ford Glass Company, Toledo, Ohio, has issued instructions for the installation of Optex safety blackboard for school use. The firm has prepared complete circular material for all schools which is available upon request.

Optex blackboard is easy to install and durable. Scientific tests prove that the writing surface will outlast the building in which it is installed. It is manufactured in a variety of widths and lengths according to the special needs of different schools.

Western Electric Radio Distribution System. The Western Electric Company, 195 Broadway, New York City, has announced its new technical bulletin, illustrating and describing its radio-frequency distribution system for use in public buildings. The function of the system is to form a connecting link between the single antenna and a number of radio receivers, by means of which radio signals, collected by antenna, are conducted without loss or impairment to each receiver.

Complete information regarding the Western Electric radio-frequency distribution system will be furnished upon request.

Universal Duo-Luxe Heating and Ventilating Units. John J. Nesbitt, Inc., Holmesburg, Philadelphia, Pa., has just issued its new technical bulletin No. 218, which is the latest information on its Universal Duo-Luxe heating and ventilating units. The new illustrated bulletin describes the design, character, and use of the heating units, tells how it differs from former types, outlines the advantages of using Type O, and points to the economies to be effected through the use of less steam, smaller boilers and pipes, and less fuel.

Complete information may be obtained by any school official who requests it.

Toledo Metal Furniture Price List. The Toledo Metal Furniture Co., of Toledo, Ohio, has announced its new price list No. 700–D to apply to its catalog No. 100–A on steel equipment for schools.

Toledo metal furniture comprises a variety of furniture pieces, including typewriter desks, magazine and catalog stands, office worktables, steel swivel stools, posture chairs, draftsman's stools, cafeteria tables, portable tool tables. All furniture may be obtained in a variety of stock finishes, including green, maroon, brown, black, mahogany, walnut, oak, and natural finish to harmonize with the finish of a particular room.

Complete information will be furnished to any school official upon request.

Worthwood Block Flooring for Schools. The Worth Lumber Company, 6627 White Building, Seattle, Wash., has issued a circular describing the nature, advantages, and use of Worthwood block flooring for heavy duty service. Worthwood end grain floors have great wearing qualities under heavy service, are resilient, deaden noise, absorb vibrations, and insulate against cold and dampness. The unusual thickness of 1½ in. or more, welded to a concrete subfloor, gives a solidarity and firmness found in no other wood floor. This flooring will not sliver or split, is safe, long-lived, and the cost is extremely reasonable in first installation and later upkeep. It may be used in gymnasiums, auditoriums, laboratories, and manual-training shops.

Complete information will be furnished to any school official, or architect, upon request.

After the Meeting

THE KIND OF SUPPORT POSSIBLE

When Milton B. Hopkins, of Indiana (this was many years ago), was candidate on the Democratic ticket for superintendent of public instruction, he went one day into a barber shop, and while getting shaved by a colored man, engaged him in conversation.

"I suppose you colored people are all going to vote?"

"Oh, yassah."

"What ticket are you going to vote?"

"'Publican ticket, sah! 'Publican ticket!"

"Well, I am running for superintendent of public instruction on the Democratic ticket."

"Dat so, sah?"

"Yes. Don't you think some of you colored people might be persuaded to vote for me?"

"Dunno, sah — dunno. Some mighty low-down niggahs, sah."

It Is in Many Cases

"William," said the teacher during the lesson in physiology, "what is the use of the external ear?"

William, considered a moment. "I think, teacher," he said, "it is mostly used to catch dirt."

Had His Doubts

Teacher: "Do you know that George Washington never told a lie?"

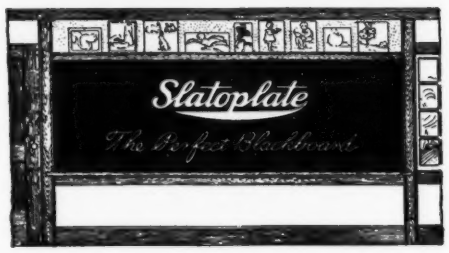
Boy: "No, sir; I only heard it."

Teacher: "What is a creditor?"

Young Pupil: "A man who must be told that my father is not at home."

New Blackboards!

at a very low cost



REPLACE old and worn boards and equip new rooms with Slatoplate, the Perfect Blackboard which is now selling at a very low figure. This board is hard and strong, has a fine, velvety writing surface and a uniform color. Writing surface guaranteed for ten years, board frequently outlasts the building. Comes in black or green. We will gladly furnish samples and prices. (Special estimates on large quantities.)

Write today!

Resurface Your Old Blackboards

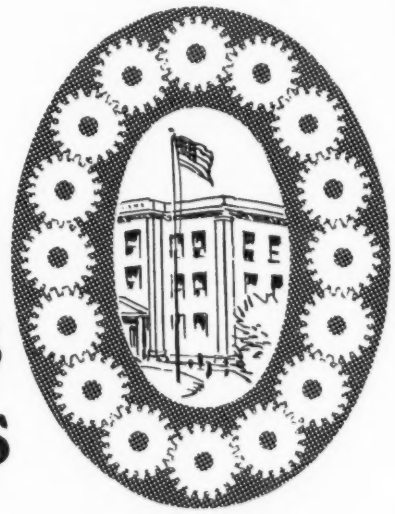
during vacation time. Make them like new at small cost. Our Ded Black Liquid Slating and Slatelike Surfacer will make any composition blackboard like new—also for refinishing hard plaster walls. ¶Contain finely ground emery and other ingredients necessary to make a splendid velvety writing surface. Dry in a few minutes and harden in a day. One gallon will surface a very large area. Easily applied with a brush. Full instructions with every shipment. Write for catalog and prices.

Beckley-Cardy Co.

Manufacturers of Slatoplate, Slaterock & Slatebestos Blackboards

17 E. 23rd Street, Chicago

Geared to the needs of schools



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Better, Handier, More Suitable Envelopes for School Needs

Some way, we seem better geared than most factories to meet these particular needs. Besides, it's nice clean business of the kind we like.

Let's begin working together now by your sending for samples.

The Western States Envelope Co.

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MILWAUKEE WISCONSIN

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STURDY STEEL

Pat'd and Pat's Pending

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FULL DATA IN OUR BULLETIN 445.

Pat'd and Pat's Pending

Fig. 732 "HALLOWELL" Steel Work-Bench.

Made of hard, smooth steel throughout. Excellent metal-working Bench. Vise not shown. Drawer is extra. Fireproof. Finished in Olive green. Shipped from stock.

Write us.

Pat'd and Pat's Pending

Fig. 924 "HALLOWELL" Steel Work-Bench.

Laminated hard-wood plank in front. Very popular with Die and Tool makers. Vise not shown. Drawer is extra. Finished in Olive green. Shipped from stock.

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Fig. 928 "HALLOWELL" Steel Work-Bench.

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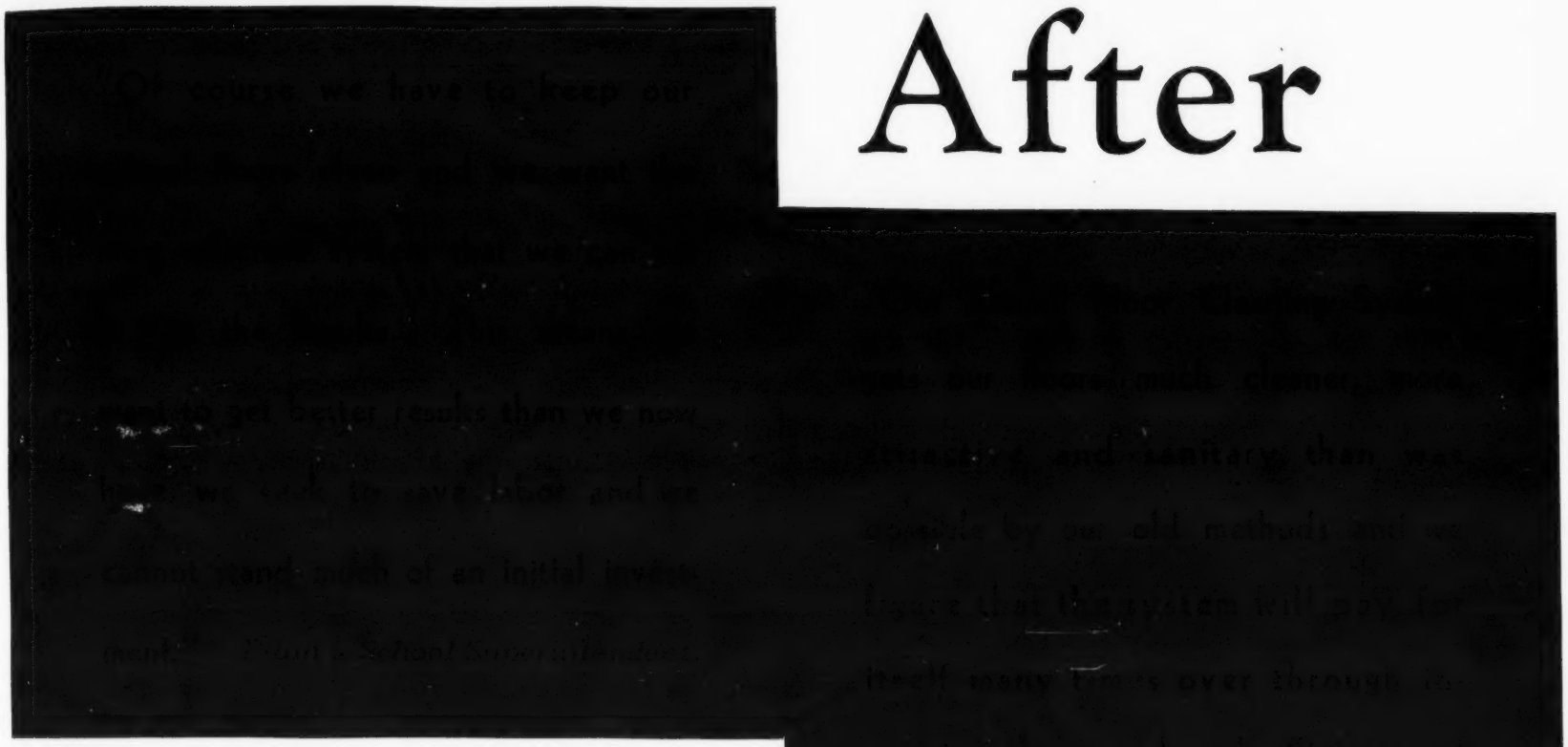
Before *and* After


"Of course we have to keep our
to get better results than we now
we can to save labor and we
cannot stand much of an initial invest-
ment." From a School Superintendent
that the system will pay for
itself many times over through
creasing the speed and efficiency of
our janitors. We certainly would not
to be without this equipment."

The paragraph above was taken from a letter from a well known school official. The paragraph to the right was taken from a letter received one year later. During that time a *Finnell System* had been installed in that school.

This official recognized his responsibility . . . . the need for better results. He also faced a need for utmost economy, whatever method of floor maintenance he used. The *Finnell System* met *both* requirements.

To learn how the *Finnell System* and *Finnell* products will help you to get floors "cleaner, more attractive and more sanitary" at less cost than present methods, ask for a free survey of your floors. Your request will bring one of our skilled representatives. His advice costs nothing, involves no obligation. It may mean a considerable saving for you, each year. Write today. FINNELL SYSTEM, INC., 807 East Street, Elkhart, Indiana.

FINNELL-KOTE—*A new, easy way to polish floors at low cost—See description.*

At left, *Finnell Scrubber-Polisher* applying *Finnell-Kote*. Waxes and polishes in one operation.

At right, Closeup showing *Finnell-Kote* flowing in threadlike stream from dispenser to floor.

A Complete System

SCRUBBERS.
Nine models from which to choose . . a wider choice than is available in any other line. The largest, a giant *Finnell* which will *scrub* a mammoth gymnasium or a block long corridor in a fraction of the time it would take to mop it by hand. Scrubs and picks up the water *in one operation.* The smallest *Finnell* a handy machine that can be carried about in one hand. Will scrub or polish hard-to-get-at places, stairways, etc. A right size for every need.

POLISHERS.
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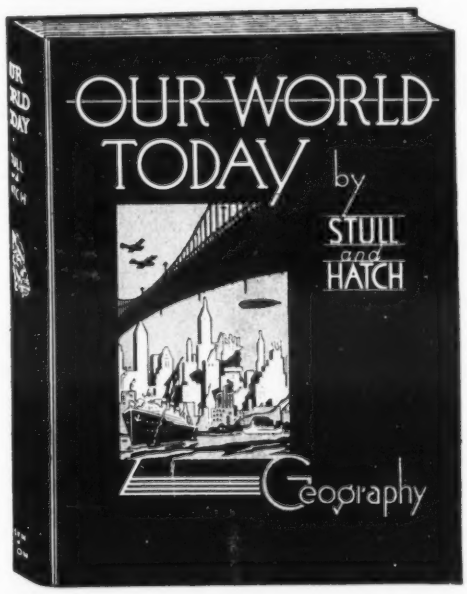

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